

SHARP SERVICE MANUAL

No. S30F240LE820E



LCD COLOUR TELEVISION

LC-40LE820E

LC-46LE820E

LC-52LE820E

LC-40LU820E

LC-46LU820E

MODELS

In the interests of user-safety (Required by safety regulations in some countries) the set should be restored to its original condition and only parts identical to those specified should be used.

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Parts Guide

Parts marked with "⚠" are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

SAFETY PRECAUTION

IMPORTANT SERVICE SAFETY PRECAUTION

- Service work should be performed only by qualified service technicians who are thoroughly familiar with all safety checks and the servicing guidelines which follow:

■ WARNING

1. For continued safety, no modification of any circuit should be attempted.
2. Disconnect AC power before servicing.

CAUTION:

FOR CONTINUED PROTECTION AGAINST A RISK OF FIRE REPLACE ONLY WITH SAME TYPE FUSE.

40 inch model: F7000, F7001 (3.15A/250V)

46/52 inch model: F7000, F7001 (5A/250V)

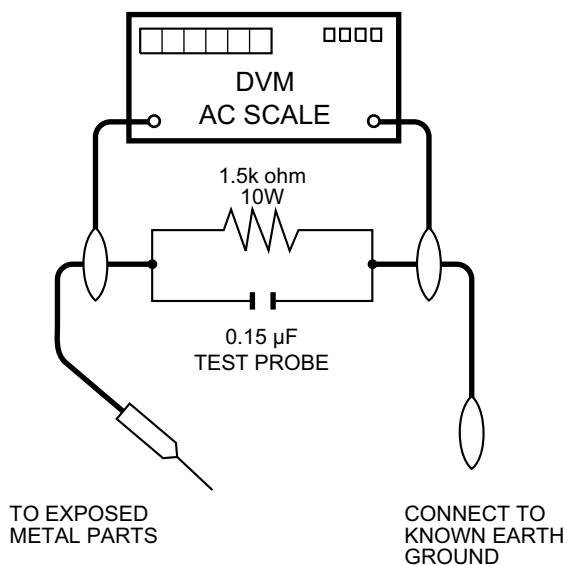
■ BEFORE RETURNING THE RECEIVER

(Fire & Shock Hazard)

Before returning the receiver to the user, perform the following safety checks:

3. Inspect all lead dress to make certain that leads are not pinched, and check that hardware is not lodged between the chassis and other metal parts in the receiver.
4. Inspect all protective devices such as non-metallic control knobs, insulation materials, cabinet backs, adjustment and compartment covers or shields, isolation resistor-capacitor networks, mechanical insulators, etc.
5. To be sure that no shock hazard exists, check for leakage current in the following manner.
 - Plug the AC cord directly into a 220~240 volt AC outlet.
 - Using two clip leads, connect a 1.5k ohm, 10 watt resistor paralleled by a 0.15μF capacitor in series with all exposed metal cabinet parts and a known earth ground, such as electrical conduit or electrical ground connected to an earth ground.

- Use an AC voltmeter having with 5000 ohm per volt, or higher, sensitivity or measure the AC voltage drop across the resistor.
- Connect the resistor connection to all exposed metal parts having a return to the chassis (antenna, metal cabinet, screw heads, knobs and control shafts, escutcheon, etc.) and measure the AC voltage drop across the resistor.
All checks must be repeated with the AC cord plug connection reversed. (If necessary, a nonpolarized adaptor plug must be used only for the purpose of completing these checks.)
Any reading of 1.05 V peak (this corresponds to 0.7 mA peak AC.) or more is excessive and indicates a potential shock hazard which must be corrected before returning the monitor to the owner.



SAFETY NOTICE

Many electrical and mechanical parts in LCD color television have special safety-related characteristics.

These characteristics are often not evident from visual inspection, nor can protection afforded by them be necessarily increased by using replacement components rated for higher voltage, wattage, etc.

Replacement parts which have these special safety characteristics are identified in this manual; electrical components having such features are identified by “⚡” and shaded areas in the Replacement Parts List and Schematic Diagrams.

For continued protection, replacement parts must be identical to those used in the original circuit.

The use of a substitute replacement parts which do not have the same safety characteristics as the factory recommended replacement parts shown in this service manual, may create shock, fire or other hazards.

Precautions for using lead-free solder

■Employing lead-free solder

- “PWBs” of this model employs lead-free solder. The LF symbol indicates lead-free solder, and is attached on the PWBs and service manuals. The alphabetical character following LF shows the type of lead-free solder.

Example:

LFa

Sn-Ag-Cu

Indicates lead-free solder of tin, silver and copper.

LFa/a

Sn-Ag-Cu

Indicates lead-free solder of tin, silver and copper.

■Using lead-free wire solder

- When fixing the PWB soldered with the lead-free solder, apply lead-free wire solder. Repairing with conventional lead wire solder may cause damage or accident due to cracks.

As the melting point of lead-free solder (Sn-Ag-Cu) is higher than the lead wire solder by 40 °C, we recommend you to use a dedicated soldering bit, if you are not familiar with how to obtain lead-free wire solder or soldering bit, contact our service station or service branch in your area.

■Soldering

- As the melting point of lead-free solder (Sn-Ag-Cu) is about 220 °C which is higher than the conventional lead solder by 40 °C, and as it has poor solder wettability, you may be apt to keep the soldering bit in contact with the PWB for extended period of time. However, Since the land may be peeled off or the maximum heat-resistance temperature of parts may be exceeded, remove the bit from the PWB as soon as you confirm the steady soldering condition.

Lead-free solder contains more tin, and the end of the soldering bit may be easily corroded. Make sure to turn on and off the power of the bit as required.

If a different type of solder stays on the tip of the soldering bit, it is alloyed with lead-free solder. Clean the bit after every use of it.

When the tip of the soldering bit is blackened during use, file it with steel wool or fine sandpaper.

- Be careful when replacing parts with polarity indication on the PWB silk.

Lead-free wire solder for servicing

Part No.	★	Description	Code
ZHNDai123250E	J	φ0.3mm 250g (1roll)	BL
ZHNDai126500E	J	φ0.6mm 500g (1roll)	BK
ZHNDai12801KE	J	φ1.0mm 1kg (1roll)	BM

End of life disposal

End of life disposal



Attention: Your product is marked with this symbol. It means that used electrical and electronic products should not be mixed with general household waste. There is a separate collection system for these products.

A. Information on Disposal for Users (private households)

1. In the European Union

Attention: If you want to dispose of this equipment, please do not use the ordinary dust bin!

Used electrical and electronic equipment must be treated separately and in accordance with legislation that requires proper treatment, recovery and recycling of used electrical and electronic equipment.

Following the implementation by member states, private households within the EU states may return their used electrical and electronic equipment to designated collection facilities free of charge*. In some countries* your local retailer may also take back your old product free of charge if you purchase a similar new one.

*) Please contact your local authority for further details.

If your used electrical or electronic equipment has batteries or accumulators, please dispose of these separately beforehand according to local requirements.

By disposing of this product correctly you will help ensure that the waste undergoes the necessary treatment, recovery and recycling and thus prevent potential negative effects on the environment and human health which could otherwise arise due to inappropriate waste handling.

2. In other Countries outside the EU

If you wish to discard this product, please contact your local authorities and ask for the correct method of disposal.

For Switzerland: Used electrical or electronic equipment can be returned free of charge to the dealer, even if you don't purchase a new product. Further collection facilities are listed on the homepage of www.swico.ch or www.sens.ch.

B. Information on Disposal for Business Users

1. In the European Union

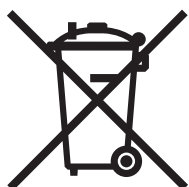
If the product is used for business purposes and you want to discard it:

Please contact your SHARP dealer who will inform you about the take-back of the product. You might be charged for the costs arising from take-back and recycling. Small products (and small amounts) might be taken back by your local collection facilities.

For Spain: Please contact the established collection system or your local authority for take-back of your used products.

2. In other Countries outside the EU

If you wish to discard of this product, please contact your local authorities and ask for the correct method of disposal.



The battery supplied with this product contains traces of Lead.

For EU: The crossed-out wheeled bin implies that used batteries should not be put to the general household waste! There is a separate collection system for used batteries, to allow proper treatment and recycling in accordance with legislation. Please contact your local authority for details on the collection and recycling schemes.

For Switzerland: The used battery is to be returned to the selling point.

For other non-EU countries: Please contact your local authority for correct method of disposal of the used battery.

OUTLINE

MAJOR SERVICE PARTS

■PWB UNIT

Ref No.	Parts Code	Description
N	DKEYDF455FM01	MAIN Unit (*1)
N	DUNTKF494FM02	R/C, LED Unit
N	DUNTKF493FM03	ICON Unit
N	DUNTKF493FM04	LOGO Unit
N	RUNTKA690WJQZ	TOUCH SENSOR Unit (*2)
N	RUNTKA685WJQZ	POWER Unit (LC-40LE820E/LU820E)
N	RUNTKA686WJQZ	POWER Unit (LC-46LE820E/LU820E)
N	RUNTKA694WJQZ	POWER Unit (LC-52LE820E)
N	RUNTK4512TPZC	LCD CONTROL Unit (LC-40LE820E/LU820E/52LE820E)
N	RUNTK4437TPZE	LCD CONTROL Unit (LC-46LE820E/LU820E)
N	RUNTK4462TPZZ	LED PWB Unit, x4 (LC-40LE820E/LU820E)
N	RUNTK4461TPZZ	LED PWB Unit, x4 (LC-46LE820E/LU820E)
N	RUNTK4460TPZZ	LED PWB Unit, x4 (LC-52LE820E)

NOTE: (*1) Replace MAIN Unit (DKEYDF455FM01) in case of IC8401 or IC3302 failure.

(*2) TOUCH SENSOR Unit (RUNTKA690WJQZ) reuse will be impossible, once it is stuck on front cabinet and exfoliates.

Therefore, please exchange of a TOUCH SENSOR Unit in the case of front cabinet exchange.

■OTHER UNIT

Ref No.	Parts Code	Description
N	R1LK400D3LWF0Y	40" LCD Panel Module Unit (LC-40LE820E/LU820E)
N	R1LK460D3LWA0Y	46" LCD Panel Module Unit (LC-46LE820E/LU820E)
N	R1LK520D3LWA0Y	52" LCD Panel Module Unit (LC-52LE820E)

■IC FOR EXCLUSIVE USE OF THE SERVICE

Ref No.	Parts Code	Description	Q'ty
IC501	RH-iXD108WJQZS	IC 24LC21AT-I/SN	1
IC2002	RH-iXC786WJNJQ	IC R5F364A6NFB	1

■SERVICE JIGS

Ref No.	Parts Code	Description	Q'ty
N	QCNW-G616WJQZ	Main Unit to LCD Control Unit (LW)	1
N	QCNW-G625WJQZ	Main Unit to Power Unit (PL)	1
N	QCNW-H184WJQZ	Main Unit to Power Unit (PD)	1
N	QCNW-H185WJQZ	Main Unit to Power (LED Drive) Unit (LB)	1
N	QCNW-K594WJQZ	Main Unit to R/C, LED Unit (RA)	1
N	QCNW-K595WJQZ	Main Unit to Speaker (SP)	1
N	QCNW-K596WJQZ	Main Unit to Icon Unit (RL)	1
N	QCNW-K597WJQZ	Main Unit to Woofer (SB)	1

CHAPTER 1. SPECIFICATIONS

[1] SPECIFICATIONS

Item			LCD COLOUR TV (40"/81.28 cm), LC-40LE820E/ LC-40LU820E	LCD COLOUR TV (46"/116.84 cm), LC-46LE820E/ LC-46LU820E	LCD COLOUR TV (52"/132.08 cm), LC-52LE820E
LCD panel			Advanced Super View & BLACK TFT LCD (40 "/81.28 cm)	Advanced Super View & BLACK TFT LCD (46 "/116.84 cm)	Advanced Super View & BLACK TFT LCD (52 "/132.08 cm)
Resolution			1,920 x 1,080 x 4 pixels		
Video colour system			PAL/SECAM/NTSC 3.58/NTSC 4.43/PAL 60		
TV function	TV-standard	Analogue	CCIR (B/G, I, D/K, L/L')		
		Digital	DVB-T (2K/8K OFDM), DVB-C		
	Receiving channel	VHF/UHF	IR A ch-E69 ch (Digital), E2-E69 ch, F2-F10 ch, I21-I69 ch, IR A-IR J ch		
		CATV	Hyper-band, S1-S41 ch		
	TV-tuning system		Auto Preset 999 ch (non-Nordic [DTV]), Auto Preset 9999 ch (Nordic [DTV]), Auto Preset 99 ch (ATV), Auto Label, Auto Sort		
	STEREO/BILINGUAL		NICAM/A2		
Audio amplifier			10 W x 2/15 W x 1		
Speaker			(234 mm x 22 mm) x 2/Ø 110 mm		
Terminals	Antenna		UHF/VHF 75Ω Din type (analogue & digital)		
	RS-232C		D-Sub 9 pin male connector		
	EXT 1		SCART (AV input, Y/C input, RGB input, TV output)		
	EXT 2		RCA pin (AV input/AUDIO L/R)		
	EXT 3		15 pin mini D-sub		
	HDMI 1 (EXT 4)		HDMI (ARC)		
	HDMI 2 (EXT 5)		HDMI		
	HDMI 3 (EXT 6)		HDMI		
	HDMI 4 (EXT 7)		HDMI		
	USB		USB		
	ETHERNET (10/100)		Home network connector (only the 820 model series)		
	HDMI 2/EXT 3 AUDIO (L/R)		Ø 3.5 mm jack*1		
	DIGITAL AUDIO OUTPUT		Optical S/PDIF digital audio output		
	C. I. (Common Interface)		EN50221, R206001, CI Plus specification		
OUTPUT/Headphones		RCA pin (AUDIO R/L)/Ø 3.5 mm jack (audio output)			
OSD language			Czech, Danish, Dutch, English, Estonian, Finnish, French, German, Greek, Hungarian, Italian, Latvian, Lithuanian, Norwegian, Polish, Portuguese, Russian, Slovak, Slovene, Spanish, Swedish, Turkish, Ukrainian		
Power requirement			AC 220 - 240 V, 50 Hz		
Power consumption (method IEC62087)			127 W (0.2 W standby*2)	147 W (0.2 W standby*2)	159 W (0.2 W standby*2)
Weight			19.5 kg (without stand), 23.5 kg (with stand)	24.5 kg (without stand), 30.0 kg (with stand)	30.0 kg (without stand), 35.0 kg (with stand)
Operating temperature			0 °C to + 40 °C		

*1 The HDMI 2 and EXT 3 terminals can both use the same audio input terminal.

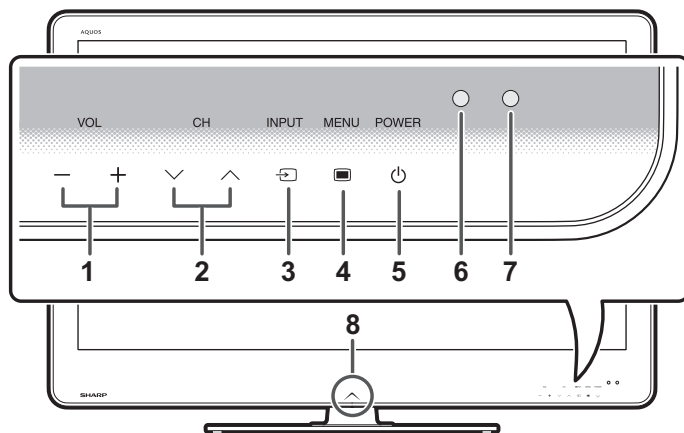
*2 Standby power consumption applies when the TV is set to not receive EPG data.

• As a part of our policy of continuous improvement, SHARP reserves the right to make design and specification changes for product improvement without prior notice. The performance specification figures indicated are nominal values of production units. There may be some deviations from these values in individual units.

CHAPTER 2. OPERATION MANUAL

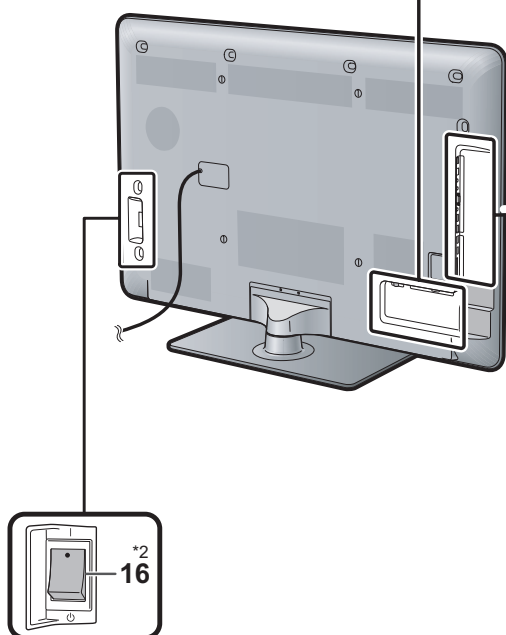
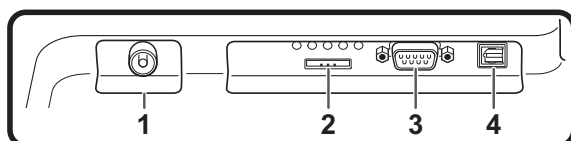
[1] OPERATION MANUAL

TV (front view)



- 1 **VOL** -/+ (Volume buttons)
- 2 **CH** ^/∨ (Programme [channel] buttons)
- 3 **INPUT** (Input source button)
- 4 **MANU** (Menu button)
- 5 **POWER** (Power button)
- 6 OPC sensor
- 7 Remote control sensor
- 8 Illumination LED

TV (rear view)



- 1 Antenna terminal
- 2 EXT 1 (RGB) terminal
- 3 RS-232C terminal
- 4 DIGITAL AUDIO OUTPUT terminal
- 5 USB terminal
- 6 ETHERNET (10/100) terminal
- 7 OUTPUT (Headphones/AUDIO (L/R)) terminal
- 8 EXT 2 (AV IN/VIDEO/AUDIO (L/R)) terminal
- 9 EXT 3 (ANALOGUE RGB (PC/COMPONENT)) terminal
- 10 HDMI 2/EXT 3 AUDIO (L/R) jack
- 11 HDMI 1 (HDMI/ARC) terminal
- 12 HDMI 2 (HDMI) terminal
- 13 HDMI 3 (HDMI) terminal
- 14 HDMI 4 (HDMI) terminal
- 15 C.I. (COMMON INTERFACE) slot
- 16 MAIN POWER switch

WARNING

- Excessive sound pressure from earphones and headphones can cause hearing loss.
- Do not set the volume at a high level. Hearing experts advise against extended listening at high volume levels.

*1 The HDMI 2 and EXT 3 terminals can both use the same audio input terminal (HDMI 2/EXT 3 AUDIO (L/R)). However, the proper item must be selected in the "Audio select" menu.

*2 When the MAIN POWER switch is turned off (⏻), the amount of electric power consumed will be reduced to 0.01 W or less. However, unlike when unplugging the AC cord, the power is not completely disconnected.

Remote control unit

1 TV (Standby/On)

2 ATV

Press to access conventional analogue TV mode.

DTV

Press to access digital TV mode.

SAT

This function is not available.

RADIO

DTV: Switch between radio and data mode.

- When only data broadcasting (no radio broadcasting) is transmitted by DVB, the radio broadcasting will be skipped.

3 AQUOS LINK buttons

If external equipment such as a AQUOS BD player is connected via HDMI cables and is AQUOS LINK compatible, you can use these AQUOS LINK buttons.

- The four buttons (◀, ▶, ▶▶, ■) function during time shift.

4 TIME SHIFT (READY/⏮/⏭)

Press to temporarily record a programme you are watching if you want to interrupt a programme to answer a phone call, for example.

5 Numeric buttons 0_9

Set the channel.

Enter desired numbers.

Set the page in teletext mode.

- When the five Nordic countries (Sweden, Norway, Finland, Denmark or Iceland) are selected in the country setting from "Auto installation", DTV services are four digits. When another country is selected, DTV services are three digits.

6 (Flashback)

Press to return to the previously selected channel or external input.

7 I/II/I+II (Sound mode)

Select a sound multiplex mode.

(Wide mode)

Select a wide mode.

8 (Mute)

TV sound on/off.

9 +/-(Volume)

Increase/decrease TV volume.

10 MENU

"Menu" screen on/off.

11 CONTROL

Press to display the panel to operate some functions on the screen.

12 ▲/▼/◀/▶ (Cursor)

Select a desired item on the setting screen.

OK

Execute a command within the "Menu" screen.

ATV/DTV: Display "CH list" when no other "Menu" screen is running.

13 END

Exit the "Menu" screen.

14 I+ (Display information)

Press to display the station information (channel number, signal, etc.) in the upper right corner of the screen.

P. INFO

Press to display programme information transmitted through digital video broadcasting (DTV only).

15 (INPUT)

Select an input source.

16 AV MODE

Select a video setting.

ECO (Standard/Advanced/Off)

Select "Energy save" setting.

17 (Teletext)

ATV: Display analogue teletext.

DTV: Select MHEG-5 and teletext for DTV.

18 P/V

Select the TV channel.

19 EPG

DTV: Display the EPG screen.

20 (Return)

Return to the previous "Menu" screen.

21 Buttons for useful operations

(Subtitle)

Switch subtitle languages on/off.

(Reveal hidden teletext)

(Subpage)

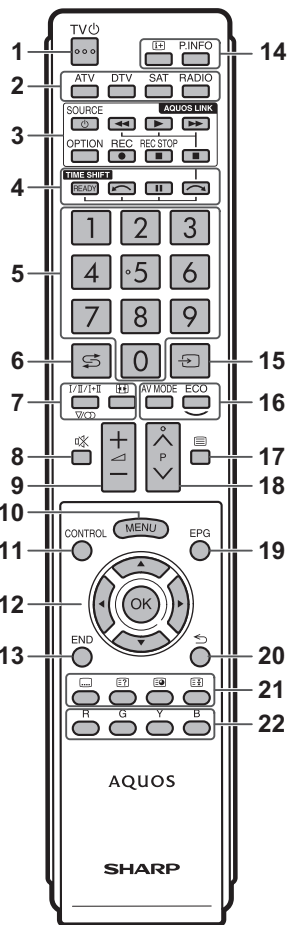
(Freeze/Hold)

Press to freeze a moving image on the screen.

Teletext: Stop updating teletext pages automatically or release the hold mode.

22 R/G/Y/B (Colour) buttons

The coloured buttons are correspondingly used to select the coloured items on the screen (e.g., EPG, MHEG-5, teletext).



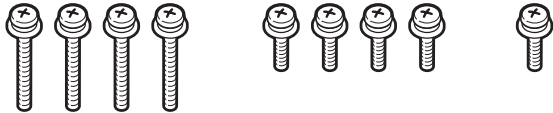
Attaching the stand unit

- Before performing work, spread cushioning over the surface on which you will be laying the TV. This will prevent it from being damaged.

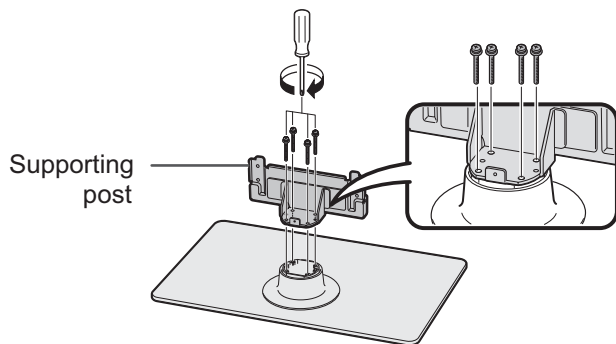
CAUTION

- Attach the stand in the correct direction.
- Be sure to follow the instructions. Incorrect installation of the stand may result in the TV falling over.

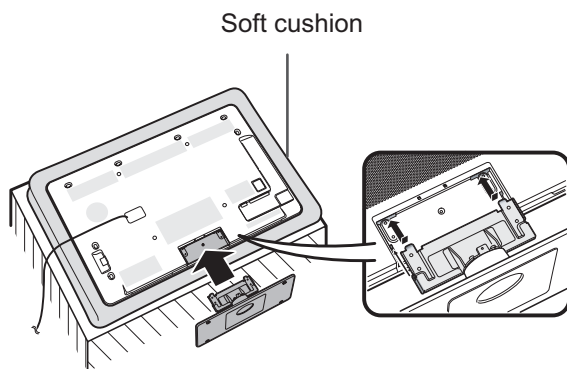
- 1** Confirm that there are nine screws (four long screws and five short screws) with the stand unit.



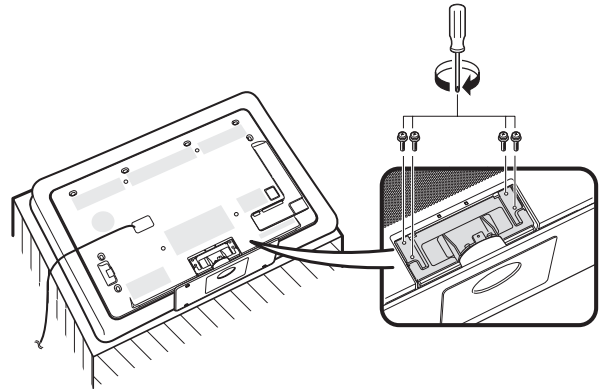
- 2** Attach the supporting post for the stand unit onto the base using the four long screws with a screwdriver as shown.



- 3** Insert the stand into the openings on the bottom of the TV (hold the stand so it will not drop from the edge of the base area).

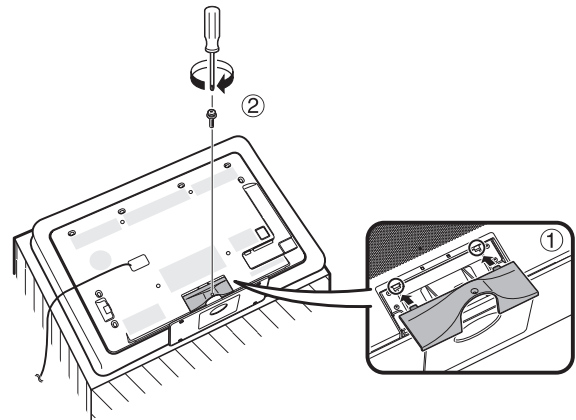


- 4** Insert and tighten four short screws into the four holes on the rear of the TV.



- 5** Attaching the stand cover.

- ① Slide the stand cover into the two catches on the stand base.
- ② Insert and tighten a short screw into the hole on the centre of the stand cover.

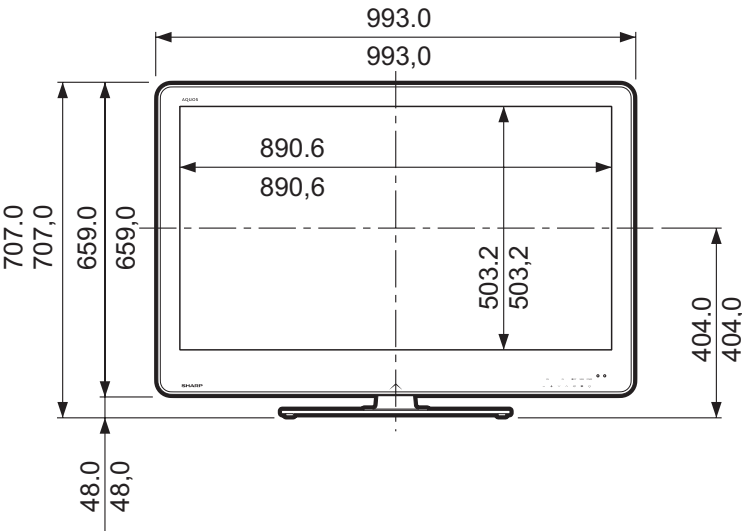


NOTE

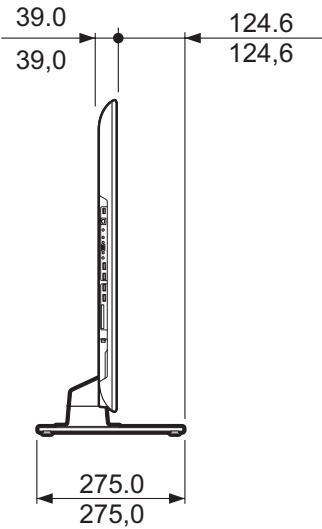
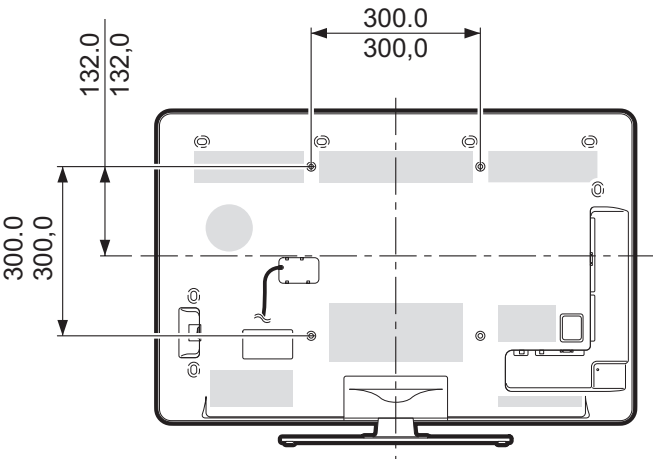
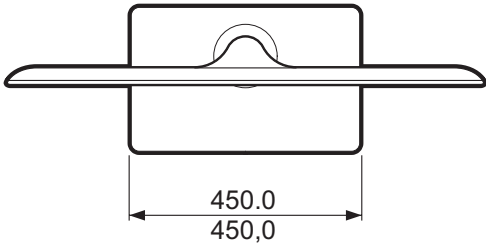
- To detach the stand unit, perform the steps in reverse order.
- A screwdriver is not supplied with this product.
- The stand base is made of glass. Therefore, be careful not to drop the stand base or apply pressure to it.
- Do not place heavy objects on the stand base.

CHAPTER 3. DIMENSIONS

[1] DIMENSIONS (LC-40LE820E/LU820E)

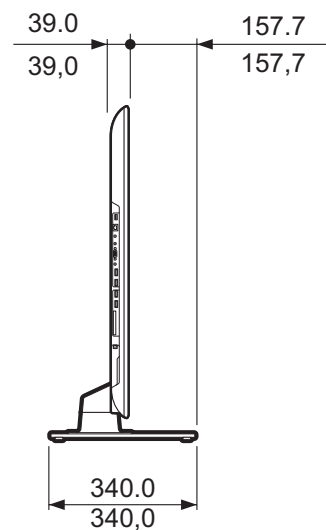
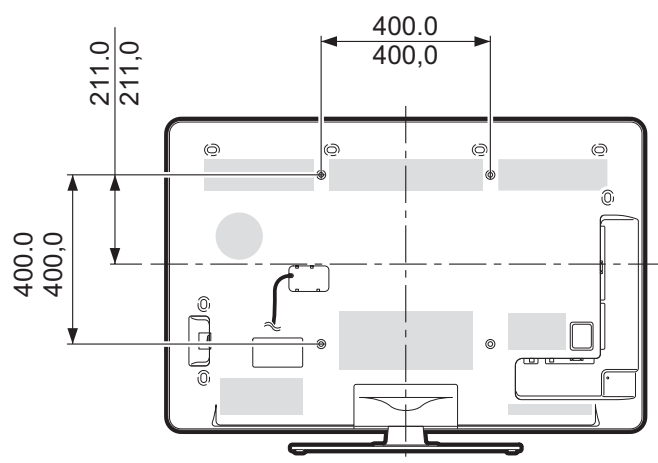
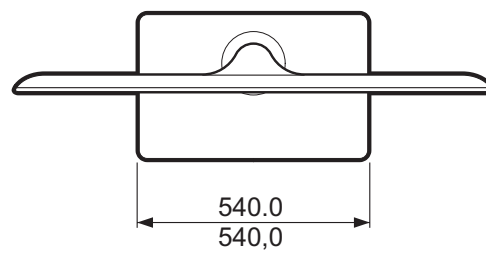
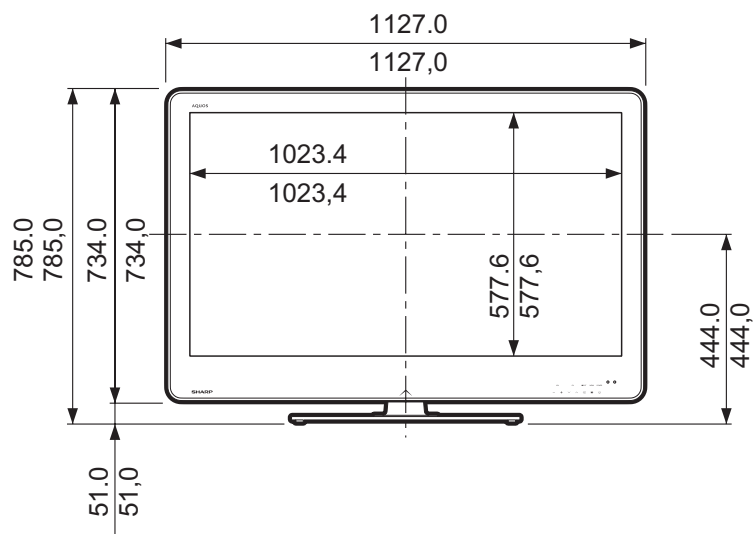


Unit: mm

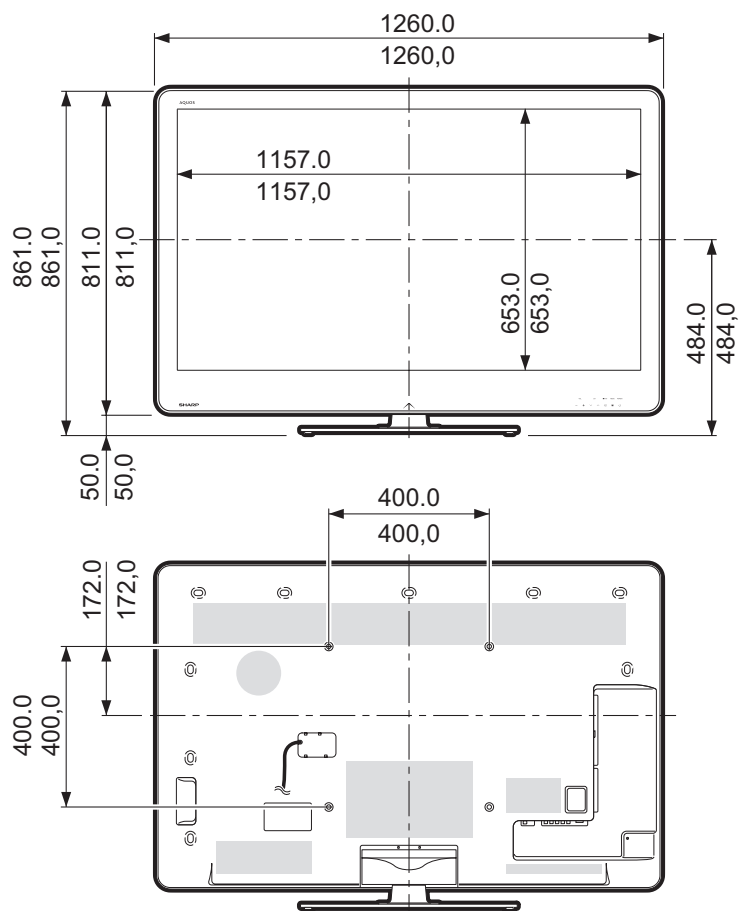


[2] DIMENSIONS (LC-46LE820E/LU820E)

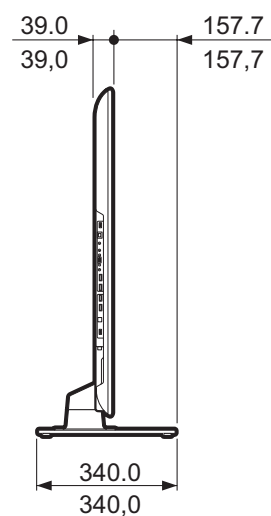
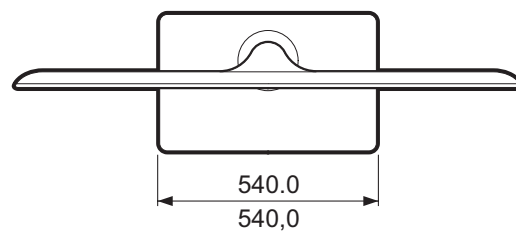
Unit: mm



LC-40/46/52LE820E, LC-40/46LU820E
[3] DIMENSIONS (LC-52LE820E)



Unit: mm

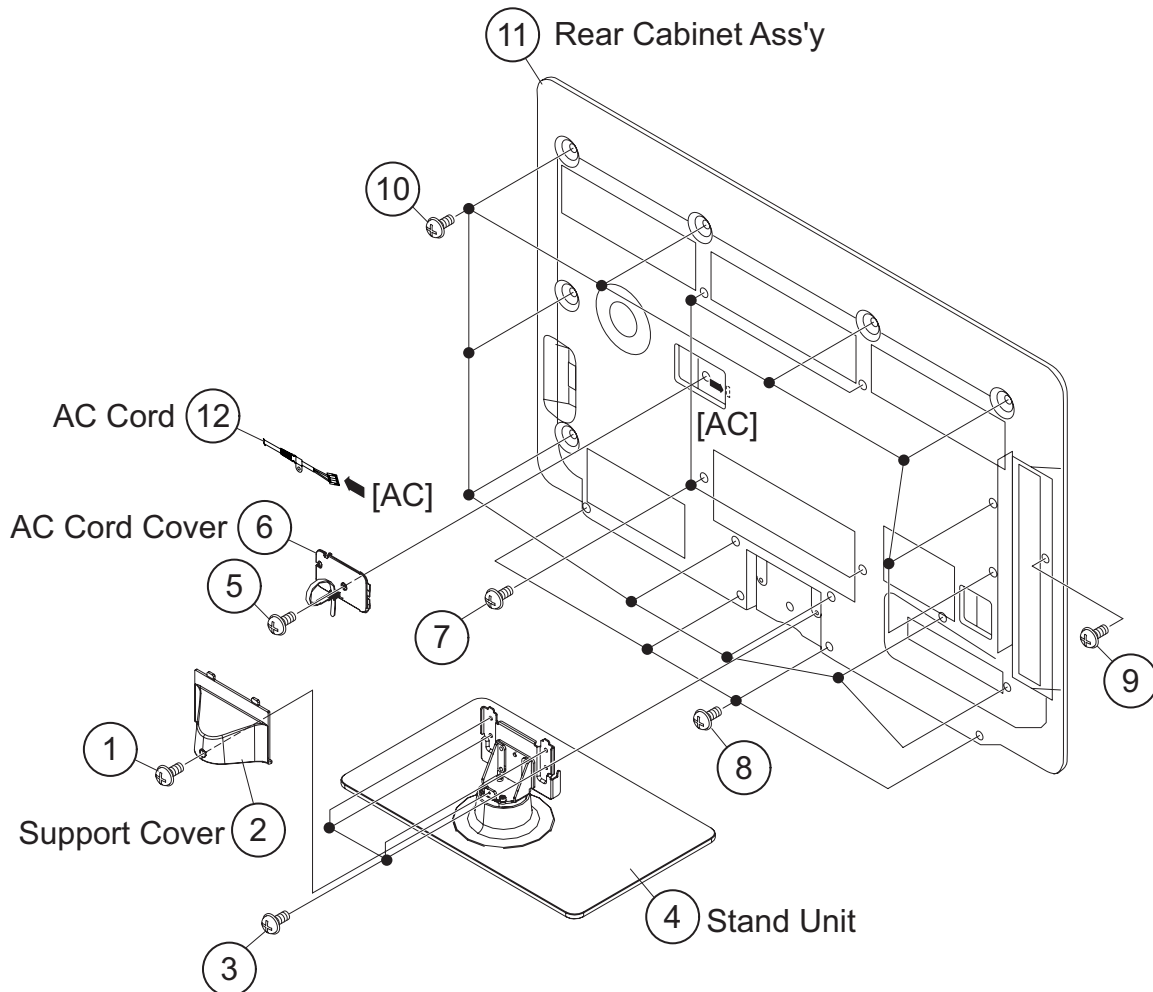


CHAPTER 4. REMOVING OF MAJOR PARTS

[1] REMOVING OF MAJOR PARTS (LC-40LE820E/LU820E)

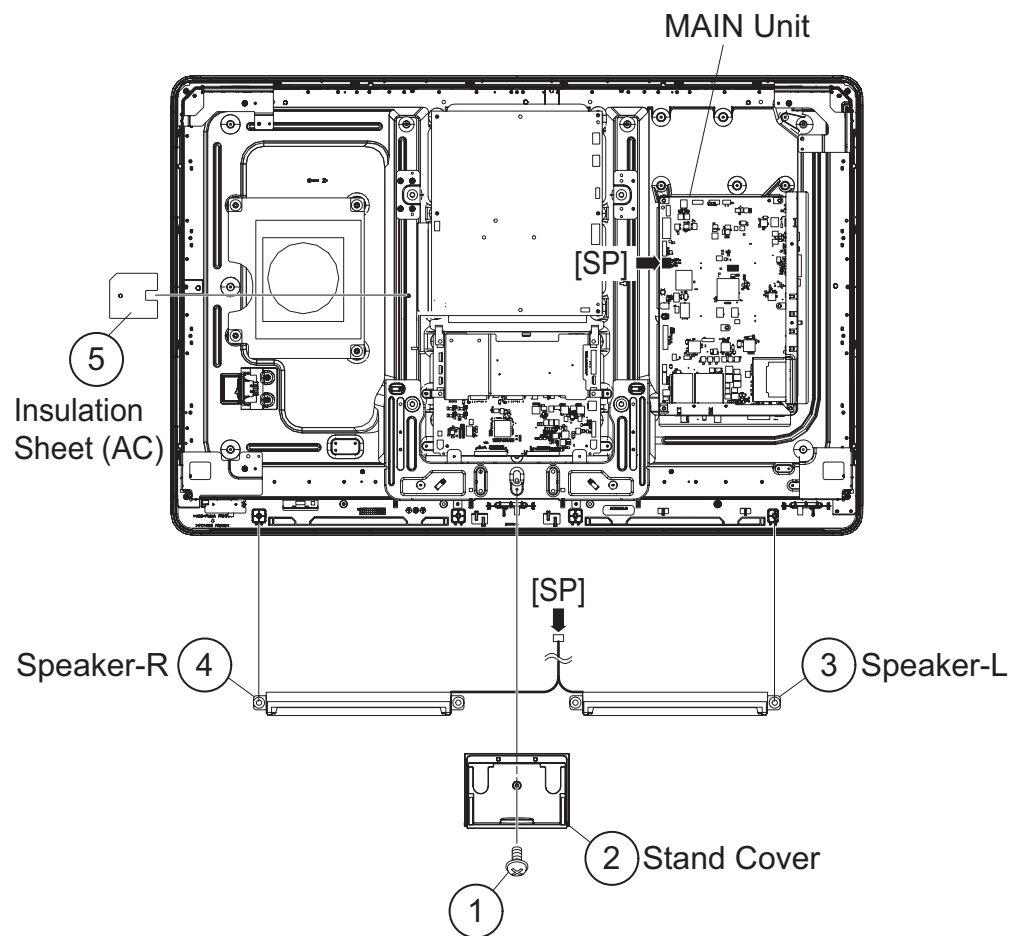
1. Removing of Stand Unit and Rear Cabinet Ass'y.

1. Remove the 1 lock screw ① and detach the Support Cover ②.
2. Remove the 4 lock screws ③ and detach the Stand Unit ④.
3. Remove the 1 lock screw ⑤ and detach the AC Cord Cover ⑥.
4. Disconnect AC wire and detach the AC Cord ⑫.
5. Remove the 4 lock screws ⑦, 4 lock screws ⑧, 1 lock screw ⑨ and 12 lock screws ⑩ and detach the Rear Cabinet Ass'y ⑪.



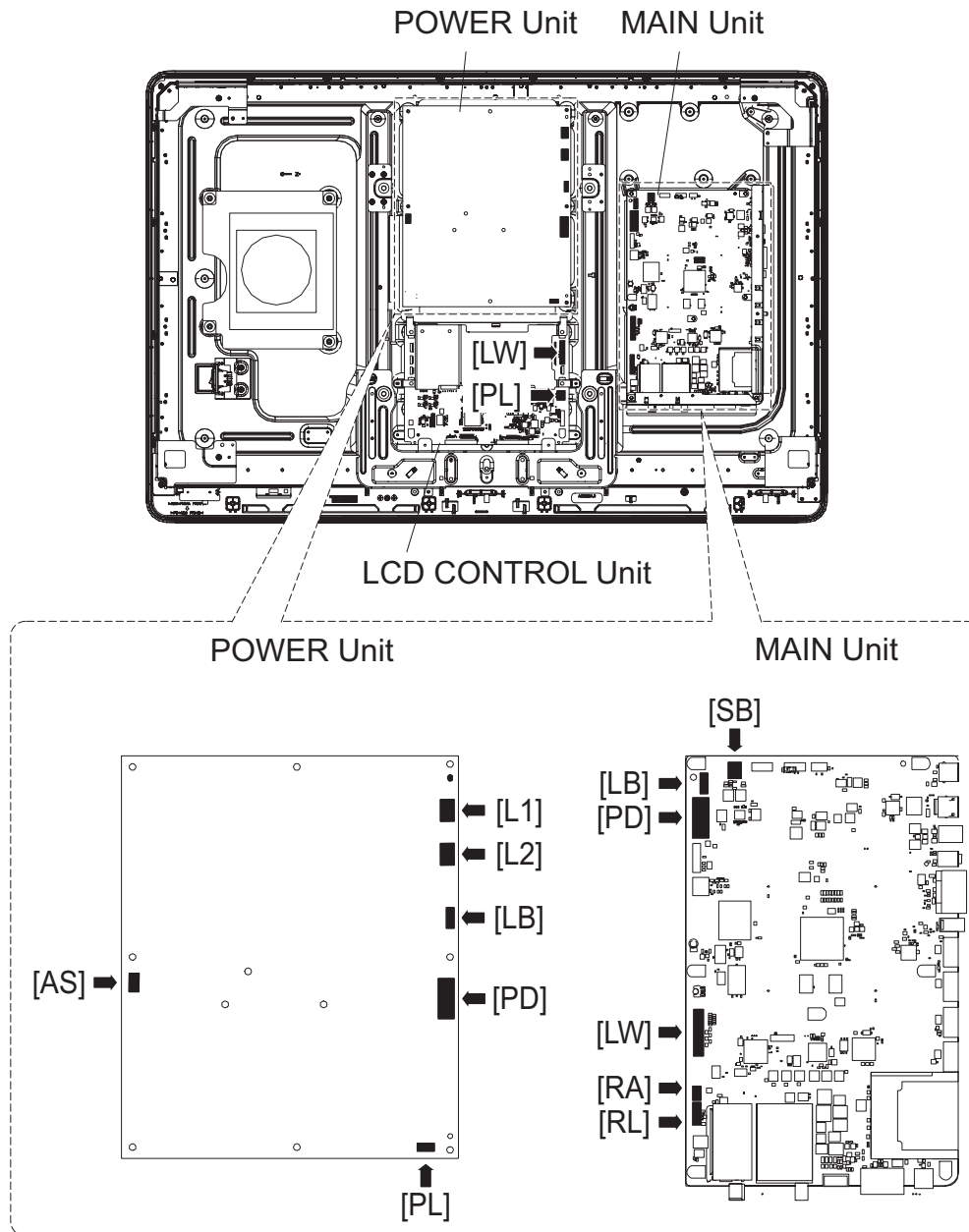
2. Removing of Speaker-L/R.

1. Remove the 1 lock screw ① and detach the Stand Cover ②.
2. Disconnect SP wire.
3. Detach the Speaker-L ③, Speaker-R ④.
4. Detach the Insulation Sheet (AC) ⑤.



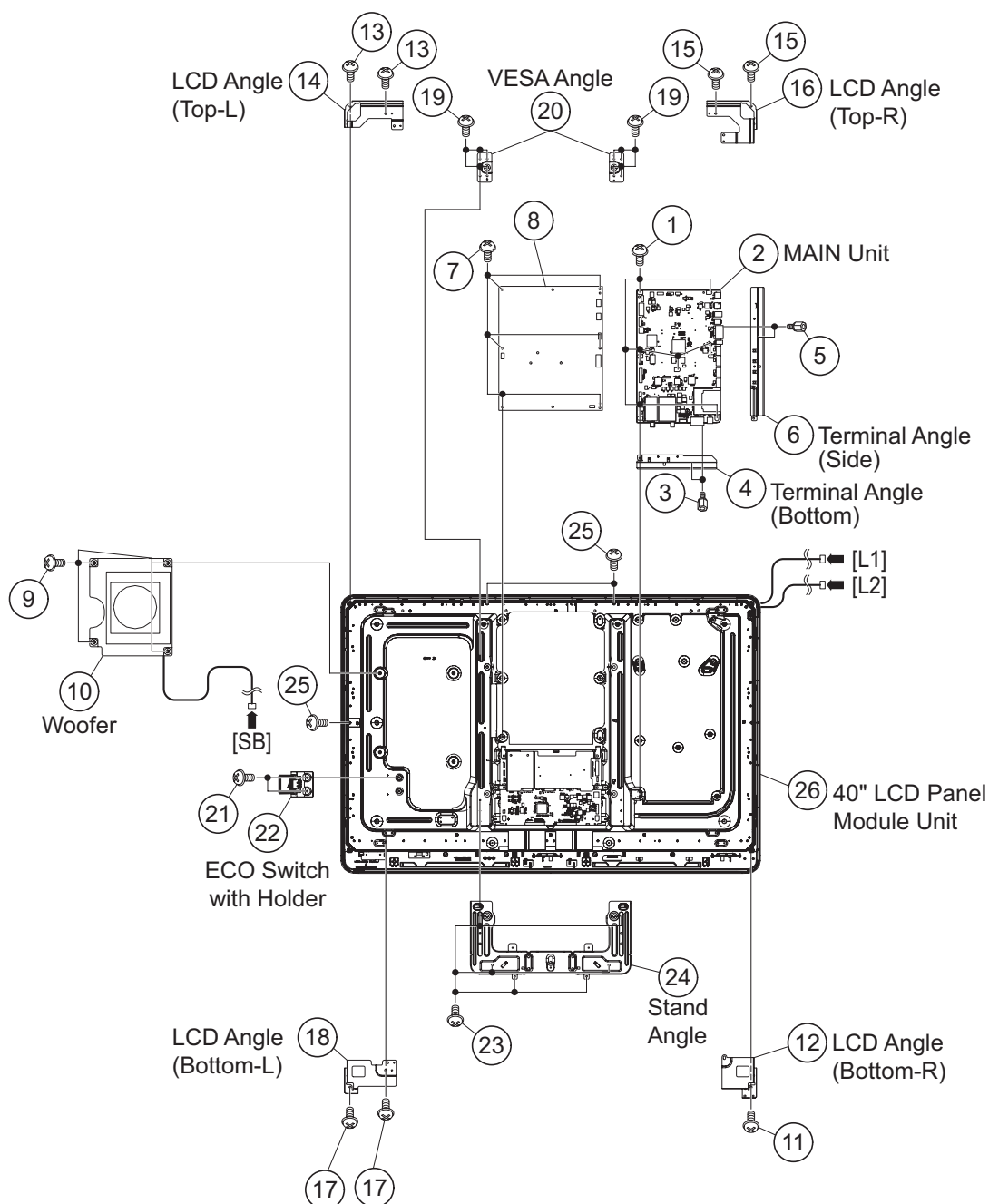
3. Removing of Connectors

1. Disconnect the following connectors from the MAIN Unit. (SB, LB, PD, LW, RA, RL)
2. Disconnect the following connectors from the POWER Unit. (L1, L2, LB, PD, PL, AS)
3. Disconnect the following connectors from the LCD CONTROL Unit. (LW, PL)



4. Removing of MAIN Unit, POWER Unit, Woofer, Stand Angle, 40" LCD Panel Module Unit.

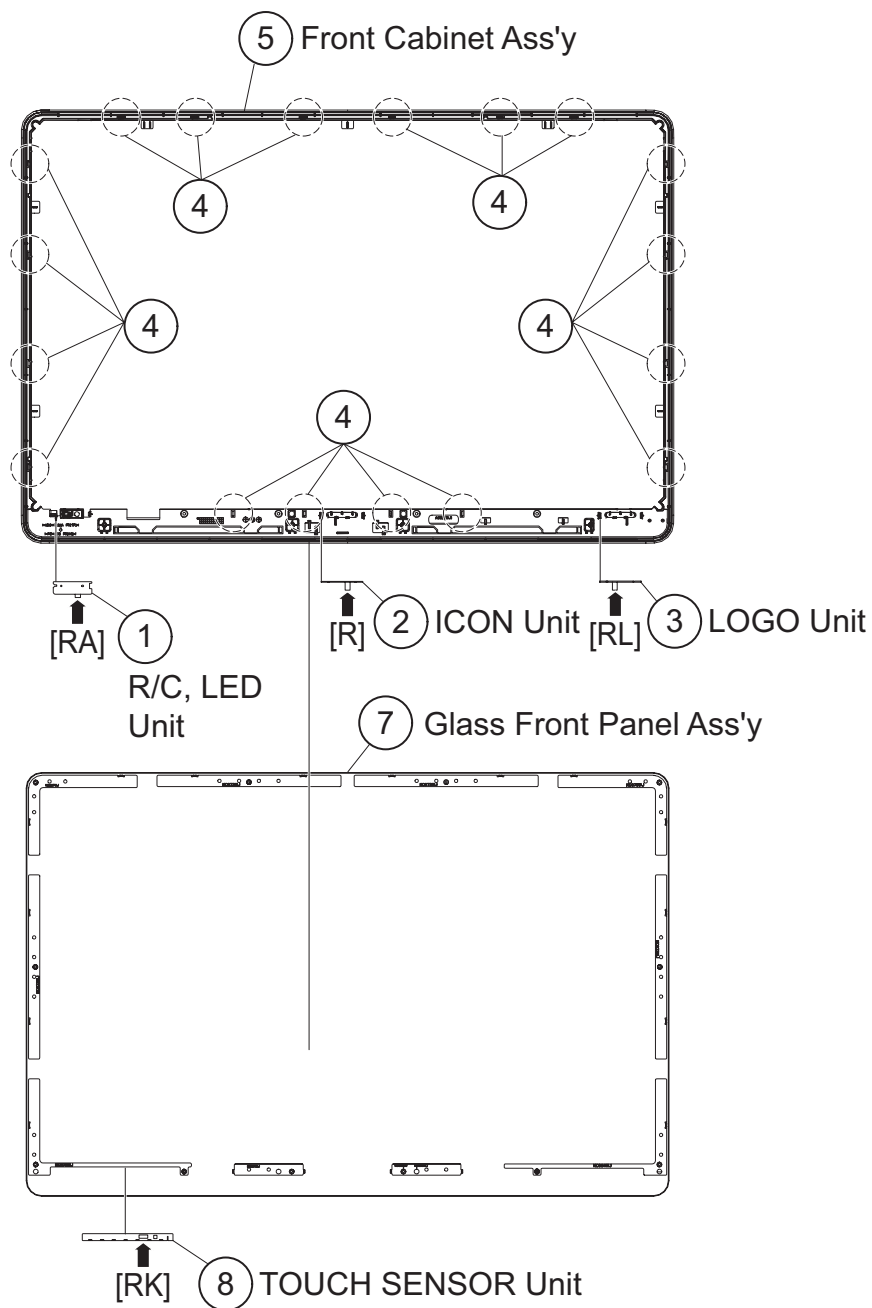
1. Remove the 7 lock screws ① and detach the MAIN Unit ②.
2. Remove the 2 lock screws ③ and detach the Terminal Angle (Bottom) ④.
3. Remove the 2 lock screws ⑤ and detach the Terminal Angle (Side) ⑥.
4. Remove the 6 lock screws ⑦ and detach the POWER Unit ⑧.
5. Remove the 4 lock screws ⑨ and detach the Woofer ⑩.
6. Remove the 1 lock screw ⑪ and detach the LCD Angle (Bottom-R) ⑫.
7. Remove the 2 lock screws ⑬ and detach the LCD Angle (Top-L) ⑭.
8. Remove the 2 lock screws ⑮ and detach the LCD Angle (Top-R) ⑯.
9. Remove the 2 lock screws ⑰ and detach the LCD Angle (Bottom-L) ⑱.
10. Remove the 8 lock screws ⑲ and detach the VESA Angle ⑳.
11. Remove the 2 lock screws ㉑ and detach the ECO Switch with Holder ㉒.
12. Remove the 6 lock screws ㉓ and detach the Stand Angle ㉔.
13. Remove the 3 lock screws ㉕ and detach the 40" LCD Panel Module Unit ㉖.



5. Removing of R/C, LED Unit, ICON Unit, LOGO Unit, Front Cabinet Ass'y, Glass Front Panel Ass'y, TOUCH SENSOR Unit.

1. Detach the R/C, LED Unit ①. (RA)
2. Detach the ICON Unit ②. (R)
3. Detach the LOGO Unit ③. (RL)
4. Remove the 18 Hooks ④ and detach the Front Cabinet Ass'y ⑤
5. Detach the Glass Front Panel Ass'y ⑦.
6. Detach the TOUCH SENSOR Unit ⑧. (RK)

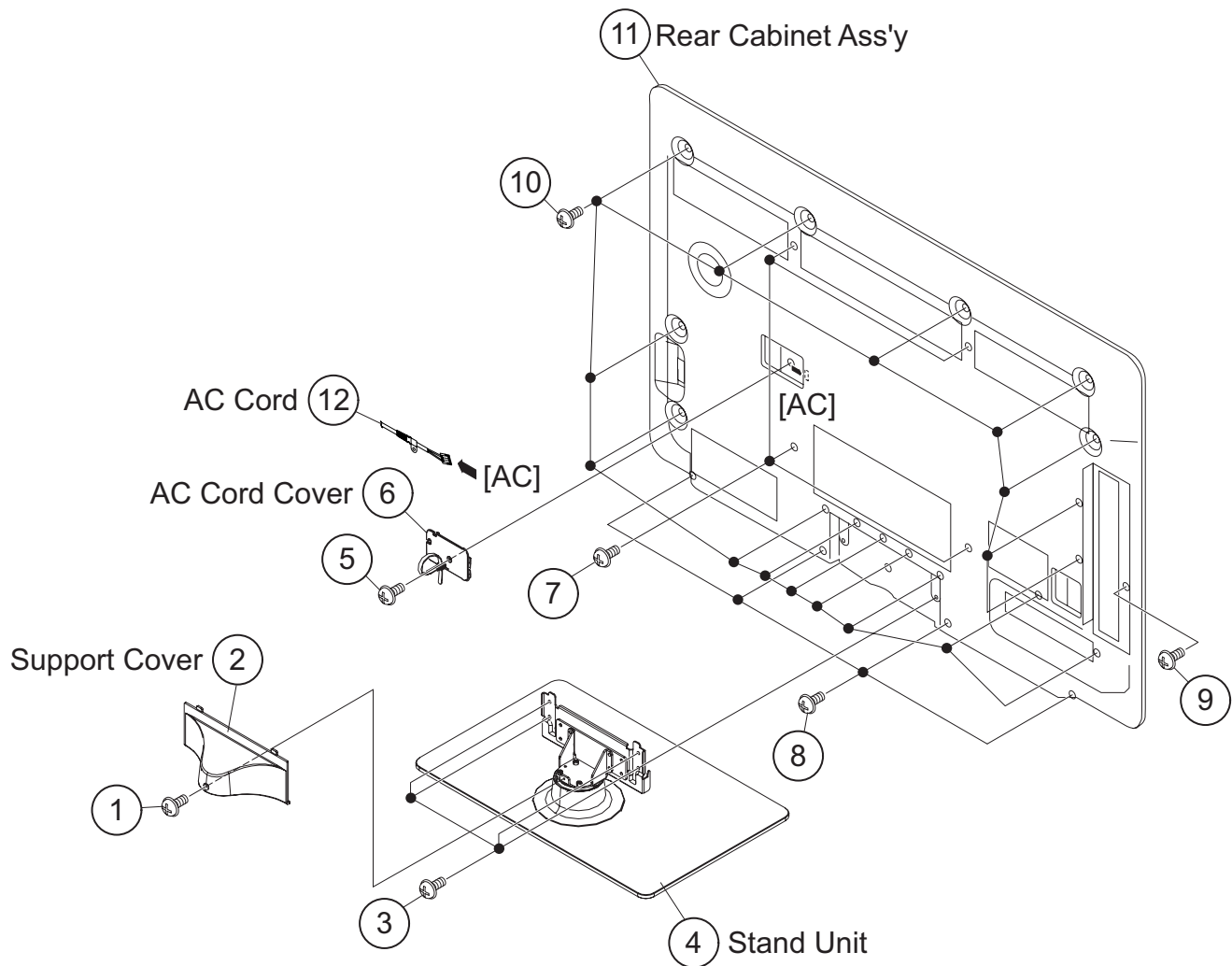
NOTE: The TOUCH SENSOR Unit removed once is not reusable.



[2] REMOVING OF MAJOR PARTS (LC-46LE820E/LU820E)

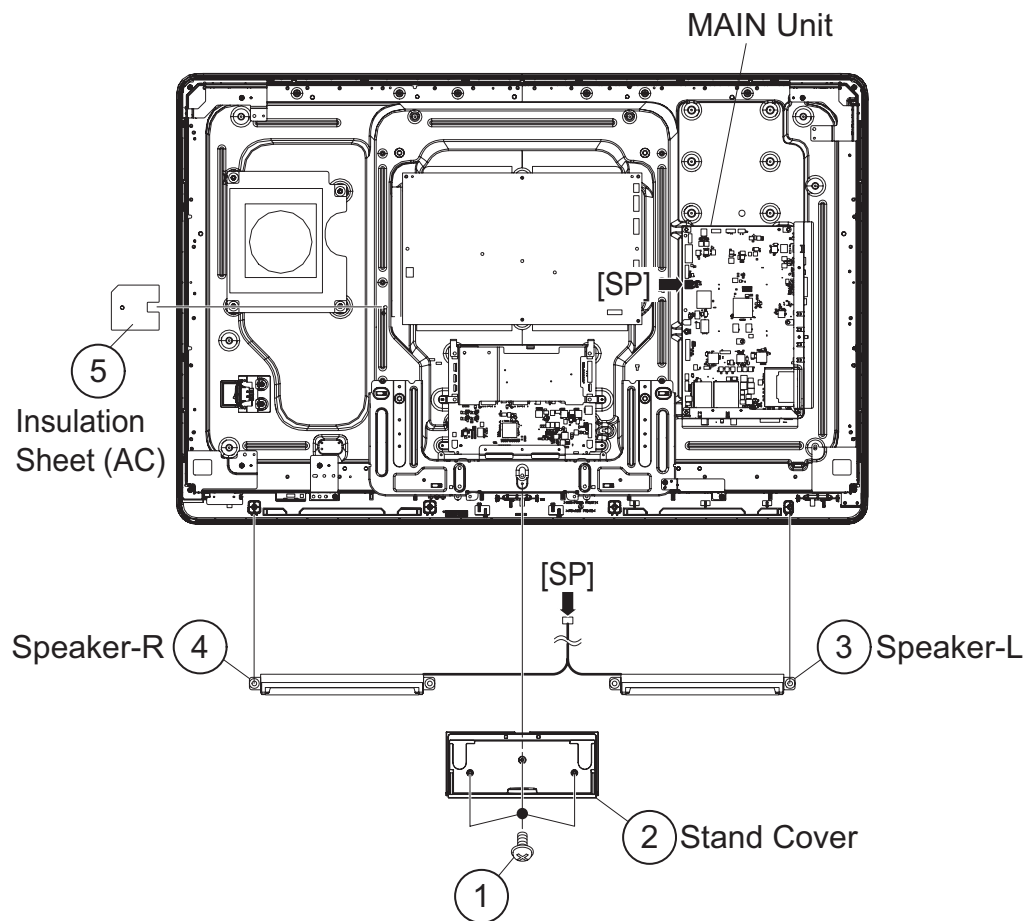
1. Removing of Stand Unit and Rear Cabinet Ass'y.

1. Remove the 1 lock screw ① and detach the Support Cover ②.
2. Remove the 4 lock screws ③ and detach the Stand Unit ④.
3. Remove the 1 lock screw ⑤ and detach the AC Cord Cover ⑥.
4. Disconnect AC wire and detach the AC Cord ⑫.
5. Remove the 4 lock screws ⑦, 4 lock screws ⑧, 1 lock screw ⑨ and 16 lock screws ⑩ and detach the Rear Cabinet Ass'y ⑪.



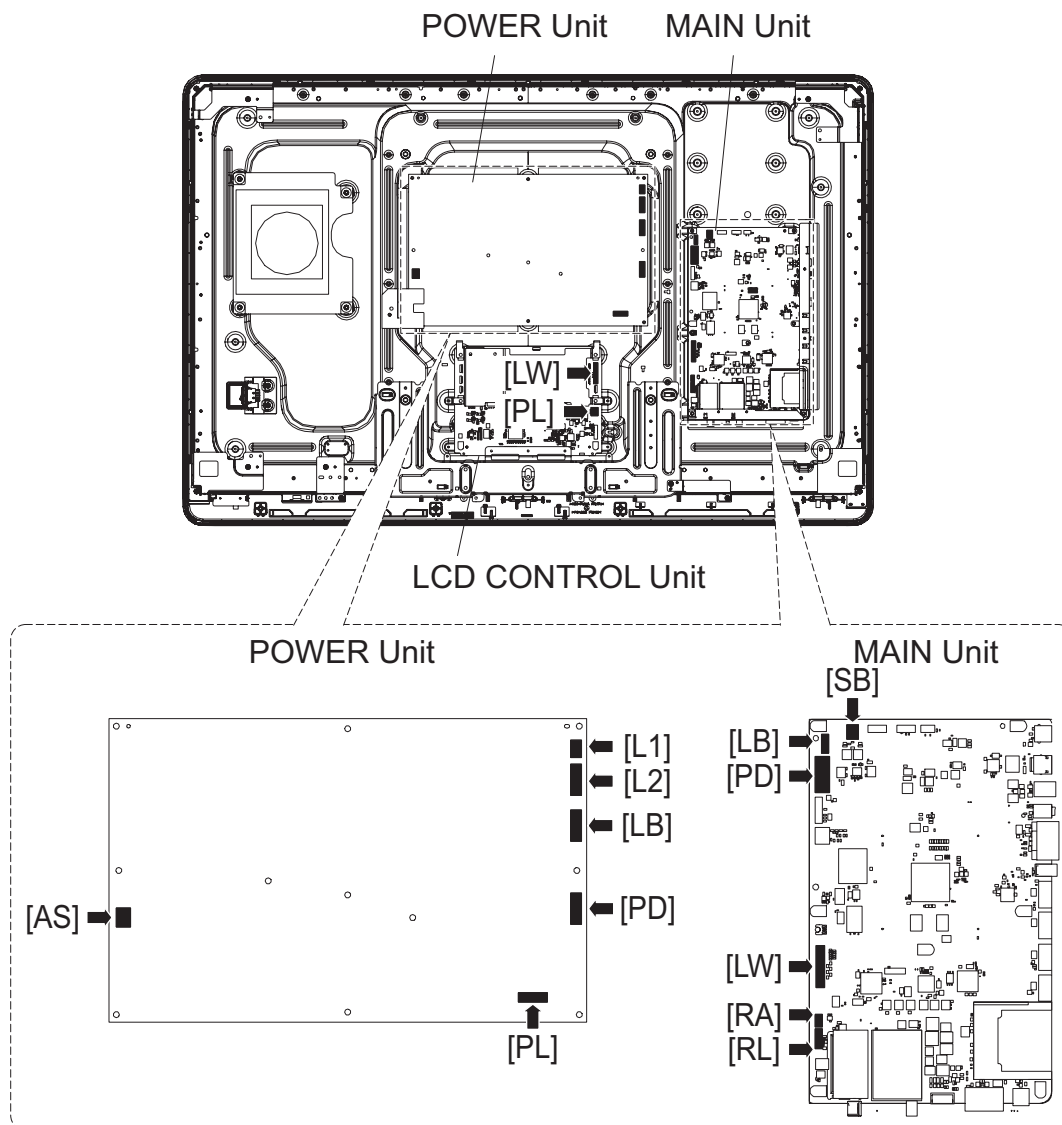
2. Removing of Speaker-L/R.

1. Remove the 3 lock screws ① and detach the Stand Cover ②.
2. Disconnect SP wire.
3. Detach the Speaker-L ③, Speaker-R ④.
4. Detach the Insulation Sheet (AC) ⑤.



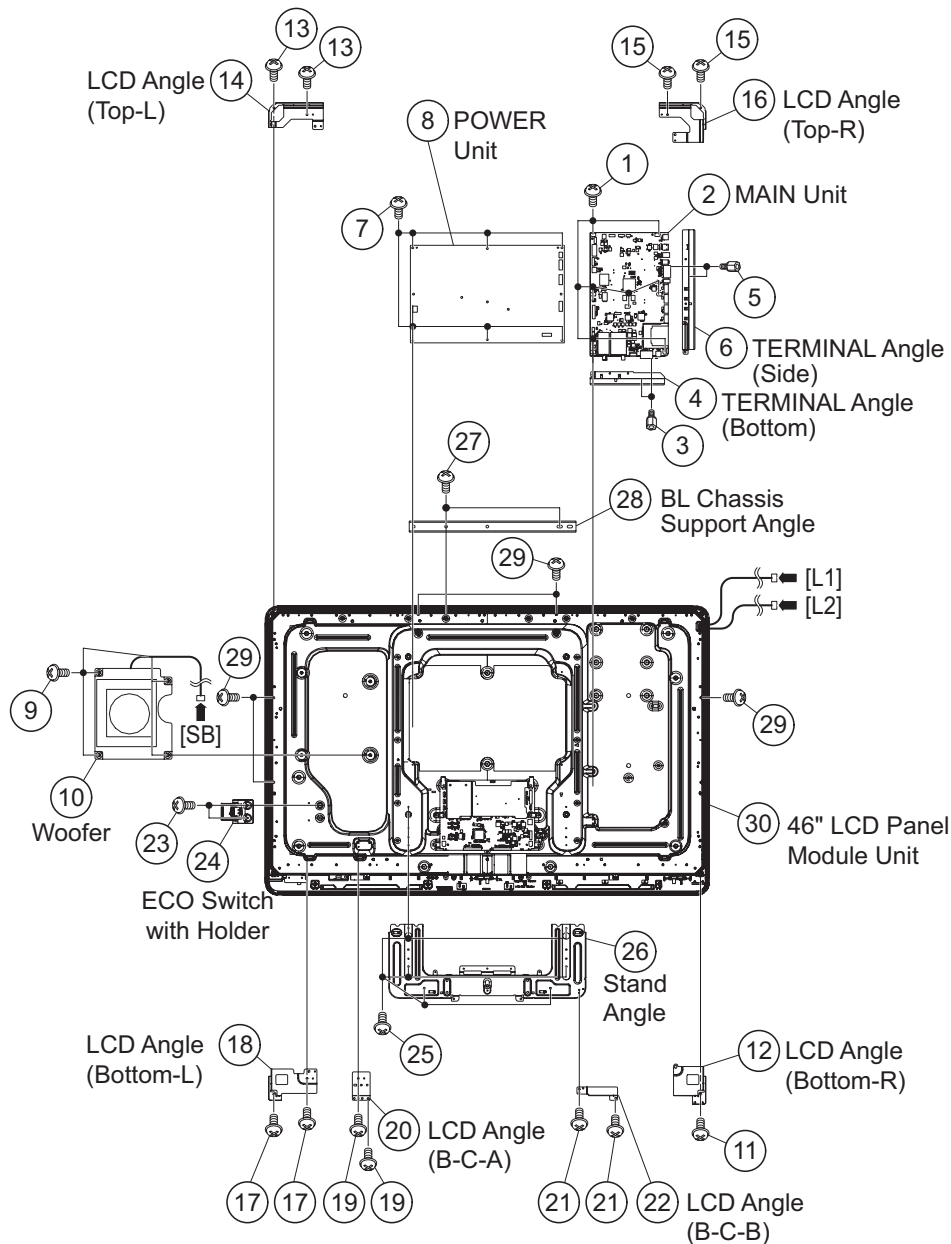
3. Removing of Connectors

1. Disconnect the following connectors from the MAIN Unit. (SB, LB, PD, LW, RA, RL)
2. Disconnect the following connectors from the POWER Unit. (L1, L2, LB, PD, PL, AS)
3. Disconnect the following connectors from the LCD CONTROL Unit. (LW, PL)



4. Removing of MAIN Unit, POWER Unit, Woofer, Stand Angle, 46" LCD Panel Module Unit.

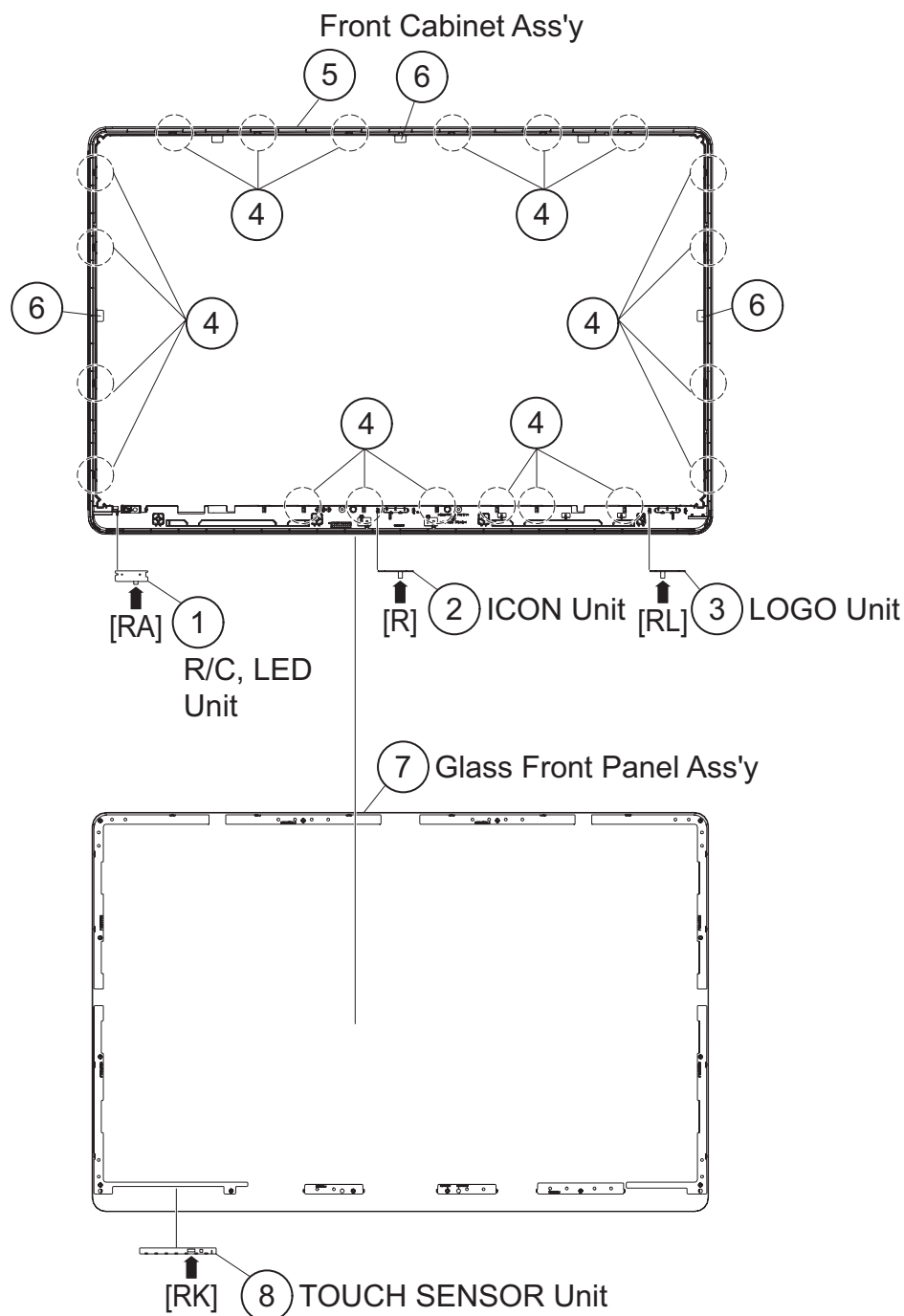
1. Remove the 7 lock screws ① and detach the MAIN Unit ②.
2. Remove the 2 lock screws ③ and detach the Terminal Angle (Bottom) ④.
3. Remove the 2 lock screws ⑤ and detach the Terminal Angle (Side) ⑥.
4. Remove the 6 lock screws ⑦ and detach the POWER Unit ⑧.
5. Remove the 4 lock screws ⑨ and detach the Woofer ⑩.
6. Remove the 1 lock screw ⑪ and detach the LCD Angle (Bottom-R) ⑫.
7. Remove the 2 lock screws ⑬ and detach the LCD Angle (Top-L) ⑭.
8. Remove the 2 lock screws ⑮ and detach the LCD Angle (Top-R) ⑯.
9. Remove the 2 lock screws ⑰ and detach the LCD Angle (Bottom-L) ⑱.
10. Remove the 2 lock screws ⑲ and detach the LCD Angle (B-C-A) ⑳.
11. Remove the 2 lock screws ㉑ and detach the LCD Angle (B-C-B) ㉒.
12. Remove the 2 lock screws ㉓ and detach the ECO Switch with Holder ㉔.
13. Remove the 6 lock screws ㉕ and detach the Stand Angle ㉖.
14. Remove the 2 lock screws ㉗ and detach the BL Chassis Support Angle ㉘.
15. Remove the 5 lock screws ㉙ and detach the 46" LCD Panel Module Unit ㉚.



5. Removing of R/C, LED Unit, ICON Unit, LOGO Unit, Front Cabinet Ass'y, Glass Front Panel Ass'y, TOUCH SENSOR Unit.

1. Detach the R/C, LED Unit ①. (RA)
2. Detach the ICON Unit ②. (R)
3. Detach the LOGO Unit ③. (RL)
4. Remove the 20 Hooks ④ and detach the Front Cabinet Ass'y ⑤
5. Remove the 3 Double Side Tape ⑥ and detach the Glass Front Panel Ass'y ⑦.
6. Detach the TOUCH SENSOR Unit ⑧. (RK)

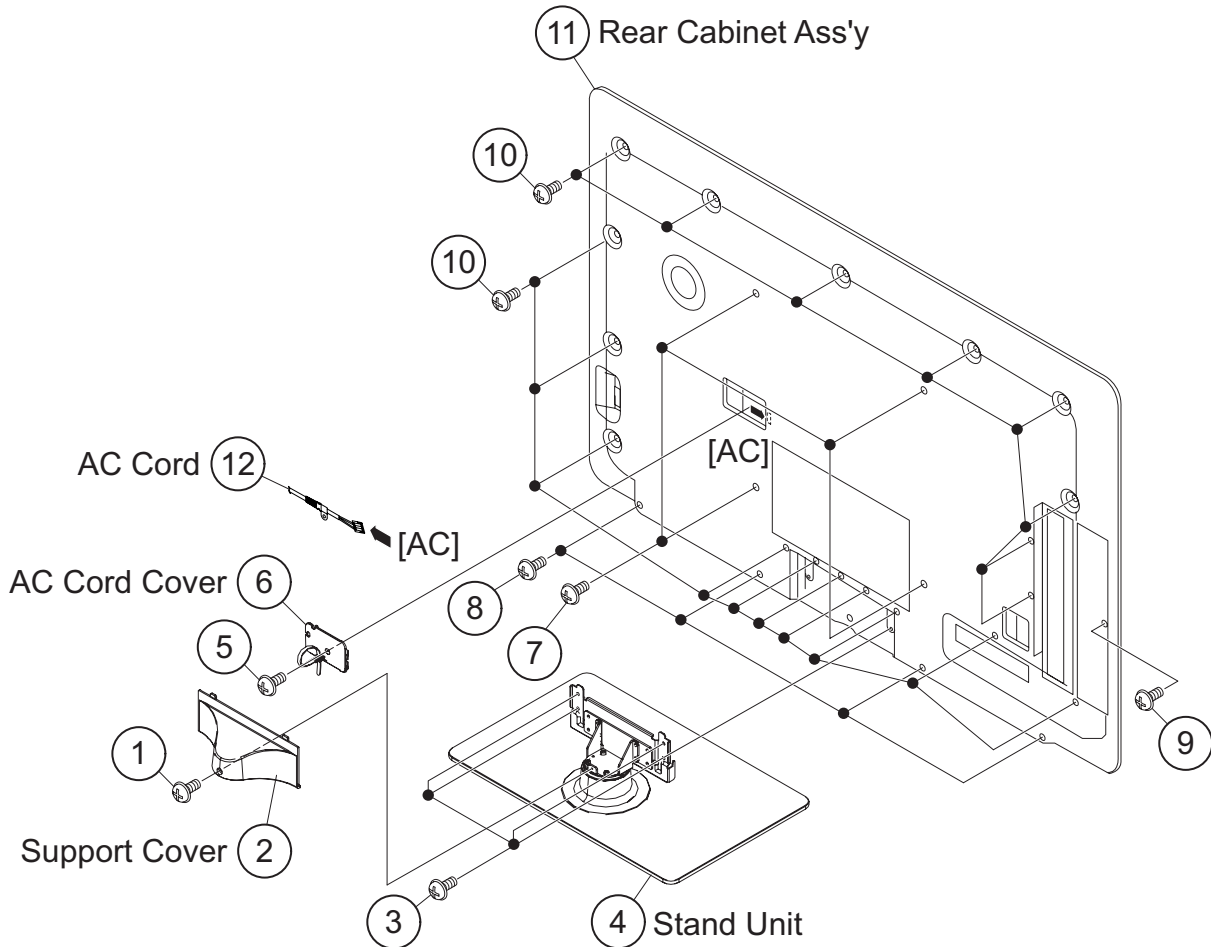
NOTE: The TOUCH SENSOR Unit removed once is not reusable.



[3] REMOVING OF MAJOR PARTS (LC-52LE820E)

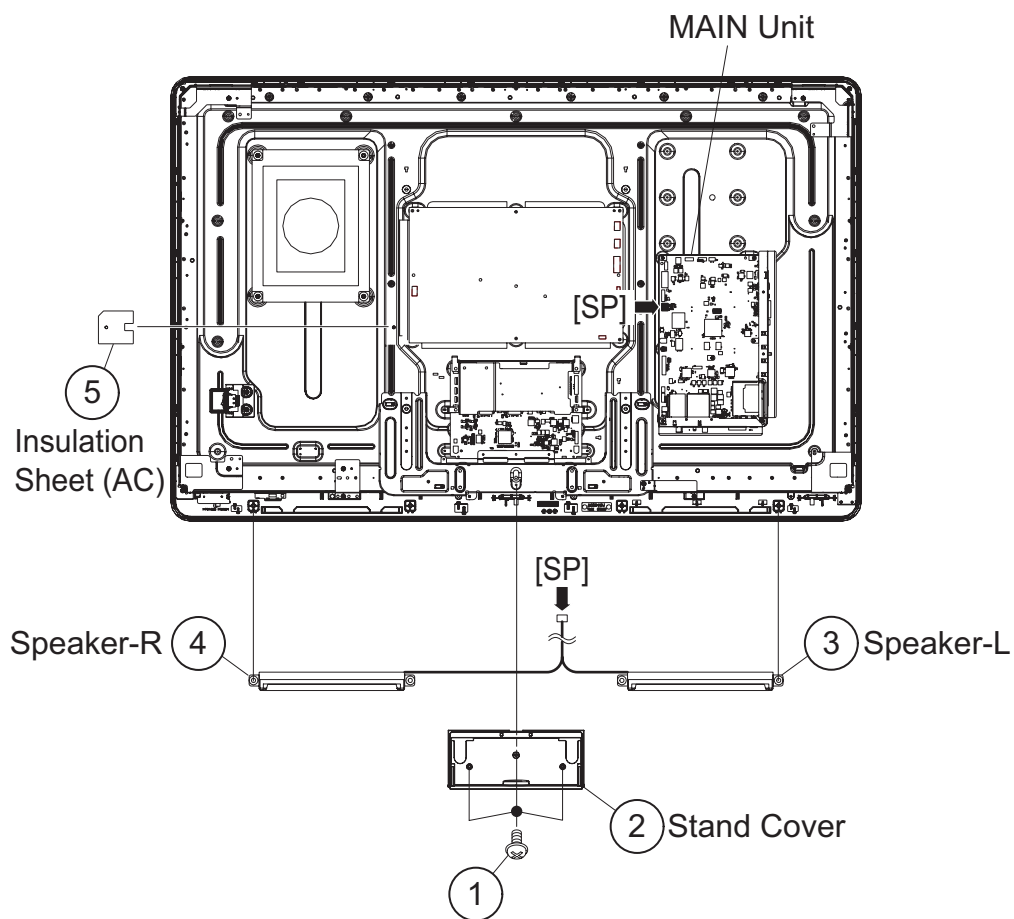
1. Removing of Stand Unit and Rear Cabinet Ass'y.

1. Remove the 1 lock screw ① and detach the Support Cover ②.
2. Remove the 4 lock screws ③ and detach the Stand Unit ④.
3. Remove the 1 lock screw ⑤ and detach the AC Cord Cover ⑥.
4. Disconnect AC wire and detach the AC Cord ⑫.
5. Remove the 4 lock screws ⑦, 4 lock screws ⑧, 1 lock screw ⑨ and 18 lock screws ⑩ and detach the Rear Cabinet Ass'y ⑪.



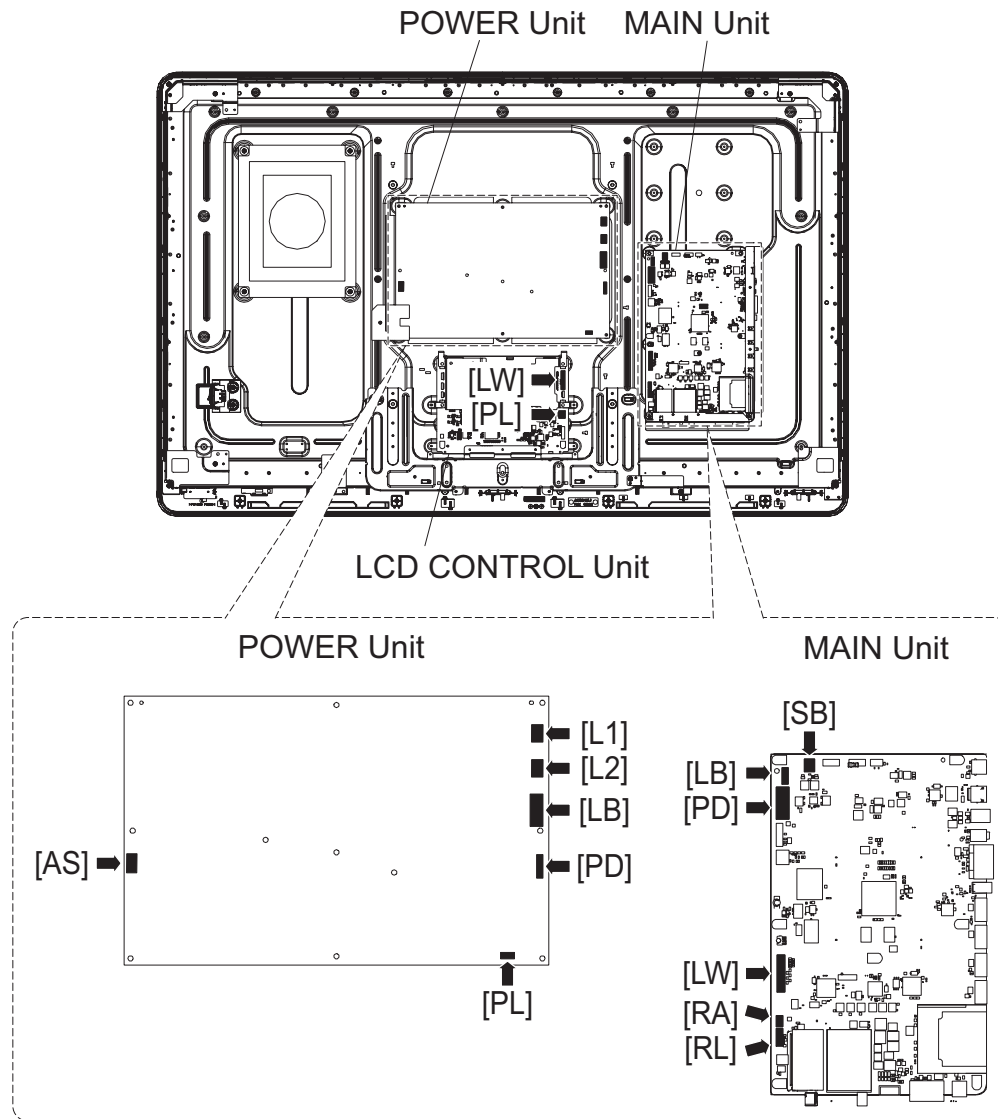
2. Removing of Speaker-L/R.

1. Remove the 3 lock screws ① and detach the Stand Cover ②.
2. Disconnect SP wire.
3. Detach the Speaker-L ③, Speaker-R ④.
4. Detach the Insulation Sheet (AC) ⑤.



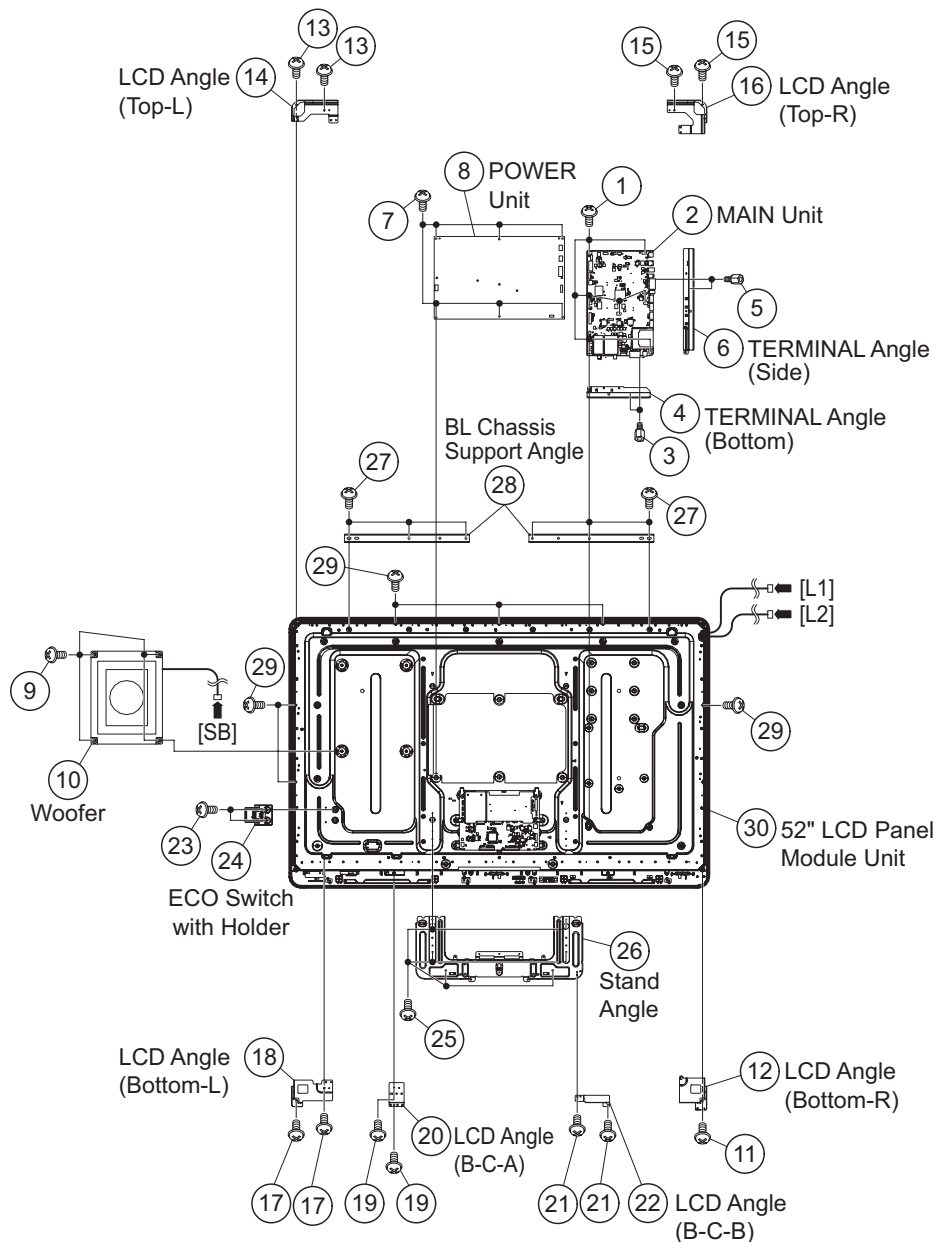
3. Removing of Connectors

1. Disconnect the following connectors from the MAIN Unit. (SB, LB, PD, LW, RA, RL)
2. Disconnect the following connectors from the POWER Unit. (L1, L2, LB, PD, PL, AS)
3. Disconnect the following connectors from the LCD CONTROL Unit. (LW, PL)



4. Removing of MAIN Unit, POWER Unit, Woofer, Stand Angle, 52" LCD Panel Module Unit.

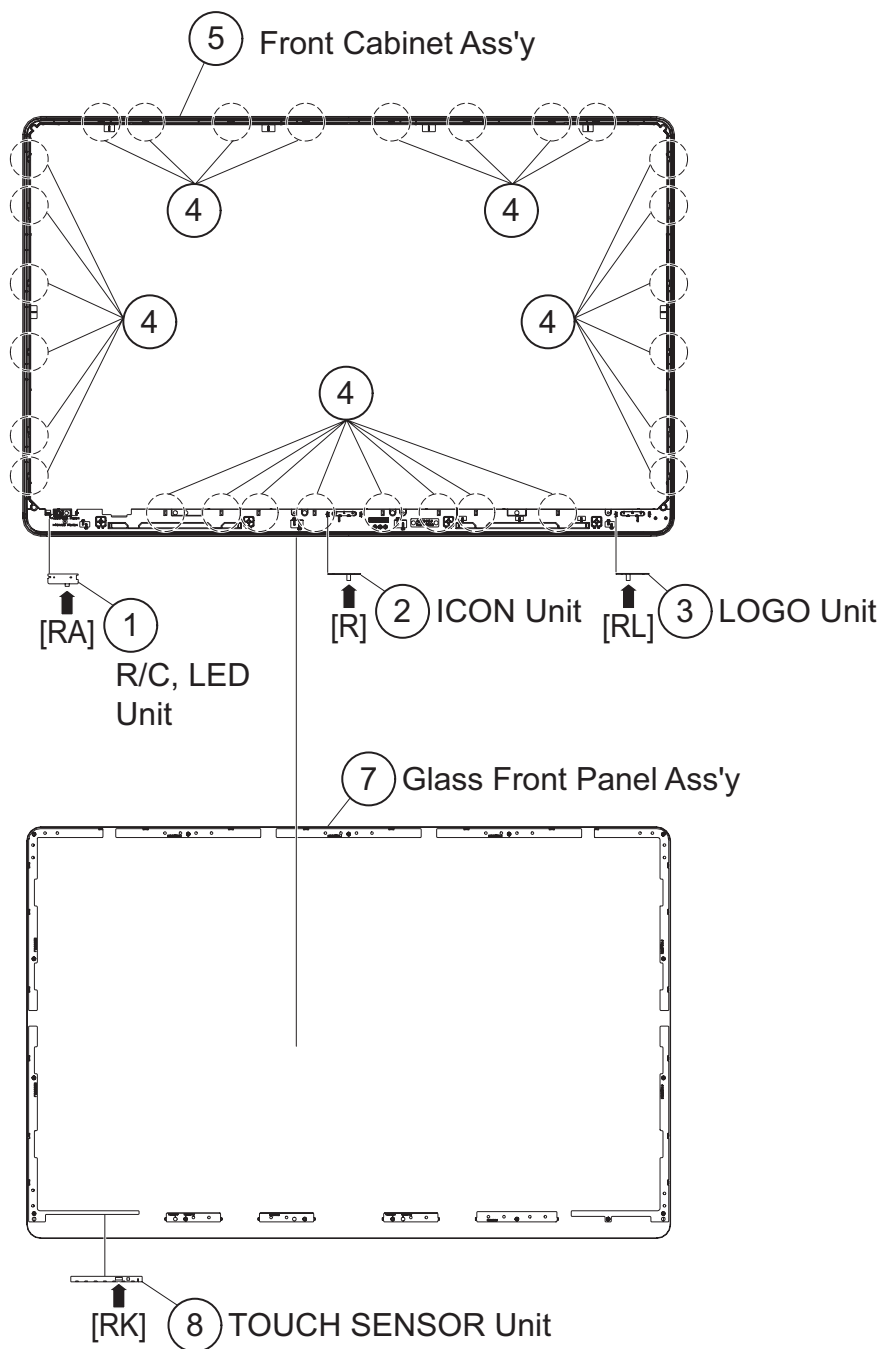
1. Remove the 7 lock screws ① and detach the MAIN Unit ②.
2. Remove the 2 lock screws ③ and detach the Terminal Angle (Bottom) ④.
3. Remove the 2 lock screws ⑤ and detach the Terminal Angle (Side) ⑥.
4. Remove the 6 lock screws ⑦ and detach the POWER Unit ⑧.
5. Remove the 4 lock screws ⑨ and detach the Woofer ⑩.
6. Remove the 1 lock screw ⑪ and detach the LCD Angle (Bottom-R) ⑫.
7. Remove the 2 lock screws ⑬ and detach the LCD Angle (Top-L) ⑭.
8. Remove the 2 lock screws ⑮ and detach the LCD Angle (Top-R) ⑯.
9. Remove the 2 lock screws ⑰ and detach the LCD Angle (Bottom-L) ⑱.
10. Remove the 2 lock screws ⑲ and detach the LCD Angle (B-C-A) ⑳.
11. Remove the 2 lock screws ㉑ and detach the LCD Angle (B-C-B) ㉒.
12. Remove the 2 lock screws ㉓ and detach the ECO Switch with Holder ㉔.
13. Remove the 6 lock screws ㉕ and detach the Stand Angle ㉖.
14. Remove the 6 lock screws ㉗ and detach the BL Chassis Support Angle ㉘.
15. Remove the 6 lock screws ㉙ and detach the 52" LCD Panel Module Unit ㉚.



5. Removing of R/C, LED Unit, ICON Unit, LOGO Unit, Front Cabinet Ass'y, Glass Front Panel Ass'y, TOUCH SENSOR Unit.

1. Detach the R/C, LED Unit ①. (RA)
2. Detach the ICON Unit ②. (R)
3. Detach the LOGO Unit ③. (RL)
4. Remove the 28 Hooks ④ and detach the Front Cabinet Ass'y ⑤
5. Detach the Glass Front Panel Ass'y ⑦.
6. Detach the TOUCH SENSOR Unit ⑧. (RK)

NOTE: The TOUCH SENSOR Unit removed once is not reusable.



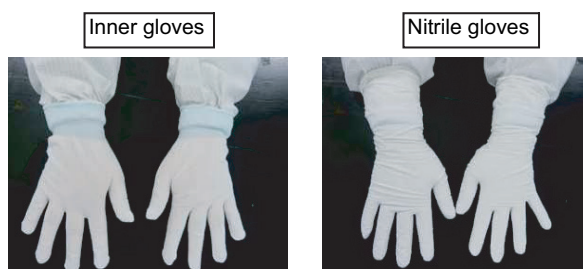
[4] Caution Cleaning Glass

1. Glass handling

CAUTION: (1) As for handling, wear clean gloves, protective footwear and mask.



(2) Inner gloves are covered in the Nitrile gloves.

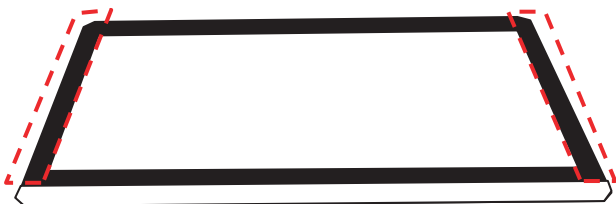


(3) Nitrile gloves are exchanged with the following standard.

- When it touched a face and so on.
- When another work was done.
- By the work of fifty times.
- In the time for recess.
- When it became dirty.
- When it tore.



(4) It has a black mask part.
You must not have a clear surface.

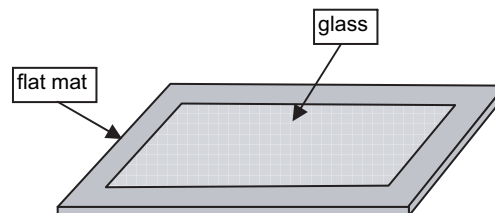


(5) Two people have handling equally by the work.

(Maintain it so that glass is not warped.)



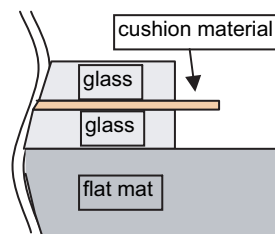
(6) When it is put horizontally, it is put on the flat mat.



(7) A cushion material is put between glass.

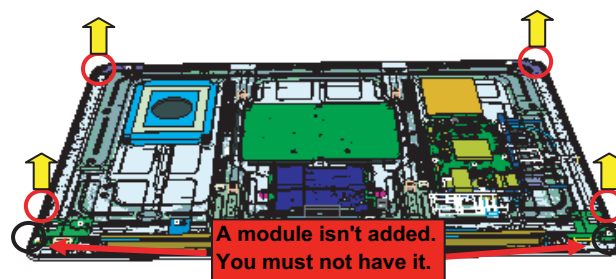
It doesn't touch it [the front and the front].

It can be put to two glass.



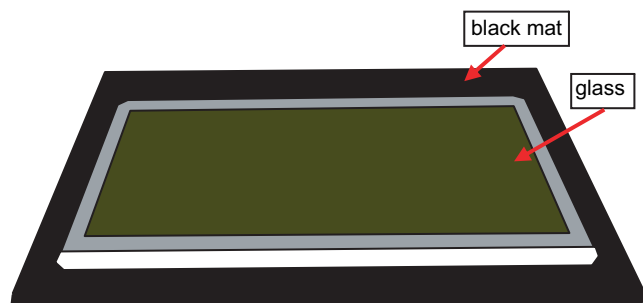
(8) It has a module part before the CAB-B installation.

(It has a module part.)

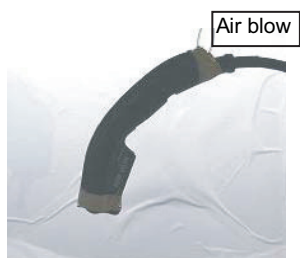


2. Glass cleaning

CAUTION: (1) Visual inspection is done on the black mat.



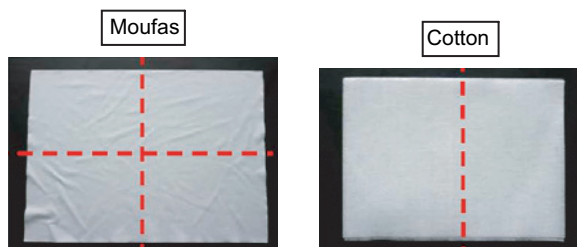
(2) Dust and trash are taken with an air blow.



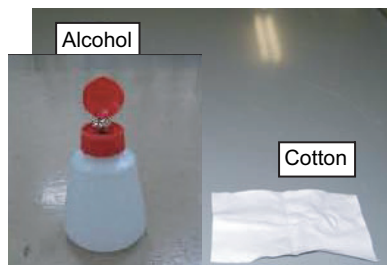
(3) Dirt is wiped out with cloth.

Front side: Moufas

Back side: Cotton (clean wiper SF-30C)



(4) When dirt doesn't clean, it is wiped out with Alcohol.



(5) Dirt is wiped out with the Ethanol and clean cloth.

When wipe off a dirt the trace which wiped do not be left.

[5] How to replace the touch key sensor PWB

1. Replace the touch key sensor PWB in a clean room.

Be sure to remove the dust from the unit before carrying it into the clean room.

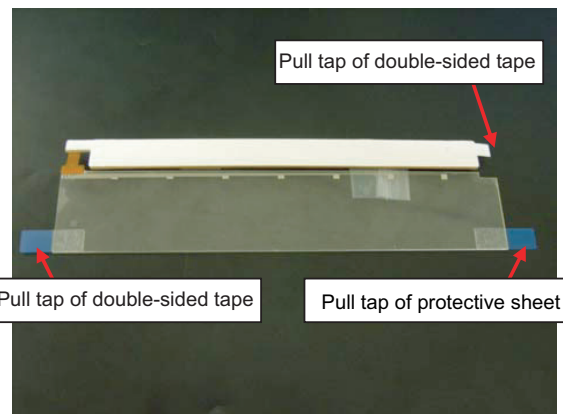
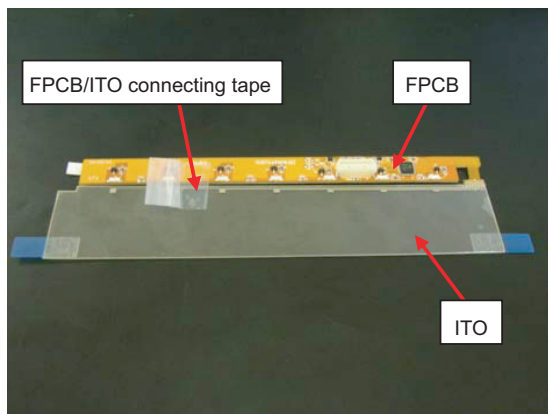
2. Remove the touch key sensor PWB from the front glass.

3. Clean the bonding surface with alcohol.

Depending on the dirt, water solution of 80%vol can be effective.

4. Adhere a spacer before bonding the touch unit.

Product Manual Touch Sensor with ITO (Transparent Electrode)



- i) Remove the touch sensor from the front glass.

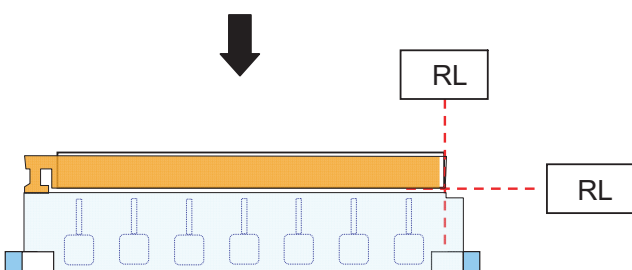
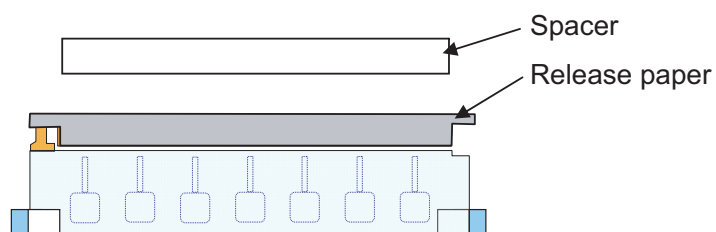


* When peeling the ITO section, check that there is no glue residue on the front glass.

If glue residue, dirt, fingerprints, etc. are found, wipe them off with anhydrous alcohol.

Do not apply anhydrous alcohol to the double-sided tape on the metal part attaching to the glass.

- ii) Adhere the spacer to the back of the FPCB section.

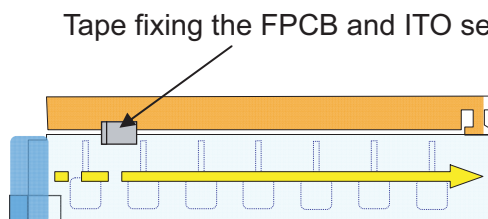


- ii-1. Peel the release paper of the double-sided tape on the FPCB section.

- ii-2. Adhere the spacer to the FPCB section. (Use the right and upper sides of the FPCB section as a reference.)

* Check that the spacer does not contact with the ITO section.

iii) Adhere the ITO section to the front glass. (Use the positioning jig.)



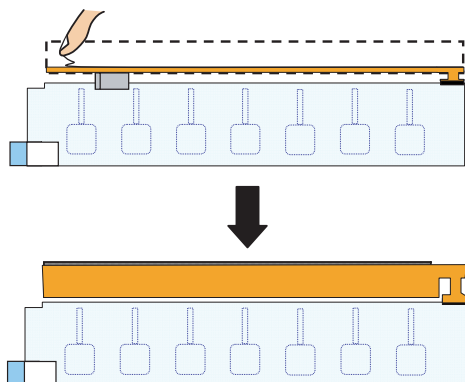
iii-1. Peel the release paper of the double-sided tape on the ITO section.

iii-2. Slowly adhere it from the end using a roller.
(Position the touch sensor using the jig.)

* Check that there are no bubbles in the ITO section after adhered.

* Adhering error: $\pm 1.0\text{mm}$

iv) Adhere the FPCB section to the front glass.



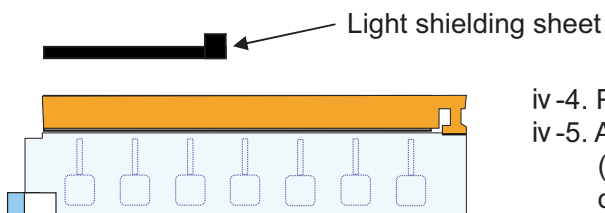
iv-1. Lift the FPCB section to peel the release paper of the double-sided tape on the spacer.

* Be careful not to apply stress to the joint of FPCB and ITO.

iv-2. Adhere the FPCB section to the front glass.

* Be careful not to apply stress to the joint of FPCB and ITO.

iv-3. Peel the tape fixing the FPCB and ITO sections.



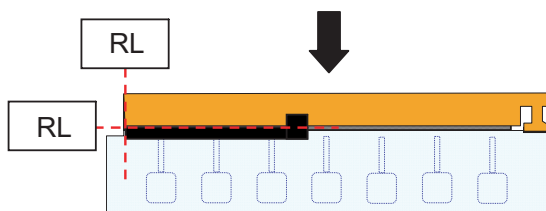
iv-4. Peel the protective sheet of the ITO section.

iv-5. Adhere the light shielding sheet.
(Use the lower side of the FPCB section and the notch on the ITO section as a reference.)

* Be careful not to get the ITO section dirty with fingerprints, etc.

* Be careful not to leave space between the light shielding sheet and the FPCB section.

iv-6. Peel the protective sheet.

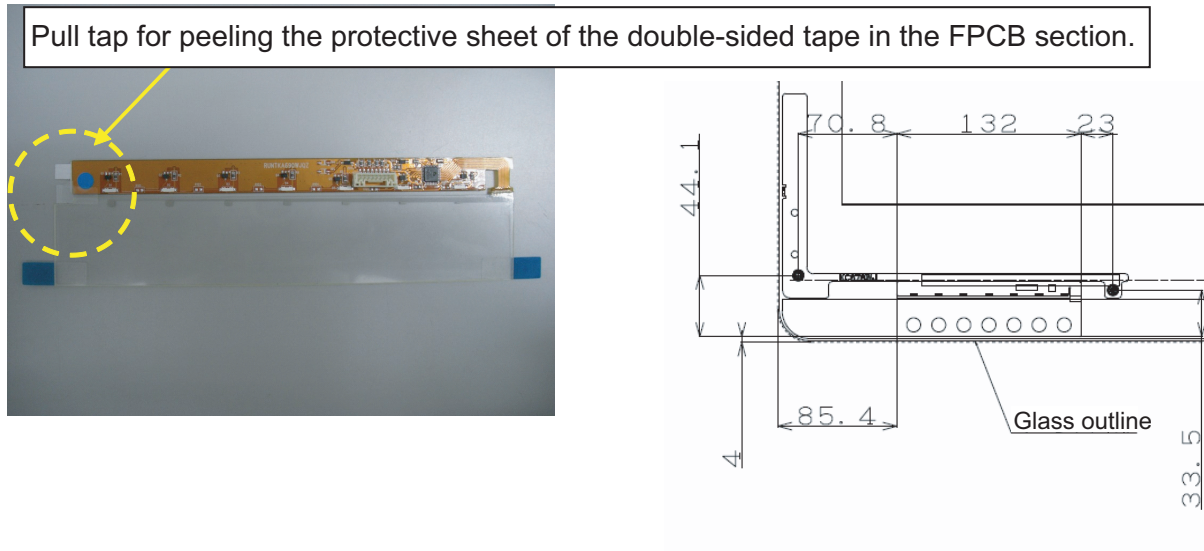


5. Attach the touch unit bonding procedure.

It includes peeling of the protective sheet.

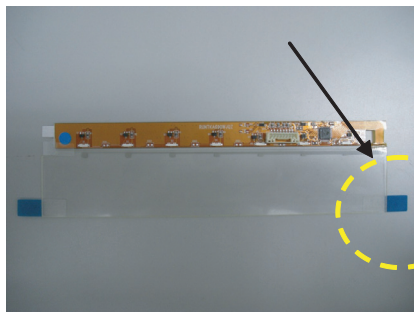
How to mount the touch sensor

- i) Adhere the FPCB to the glass. (Do not warp the FPCB if possible.)
- ii) Peel the protective sheet by means of the pull tap for peeling the protective sheet.
- iii) Adhere after positioned using the positioning jig.



iv) Peel the protective sheet of the OCA.

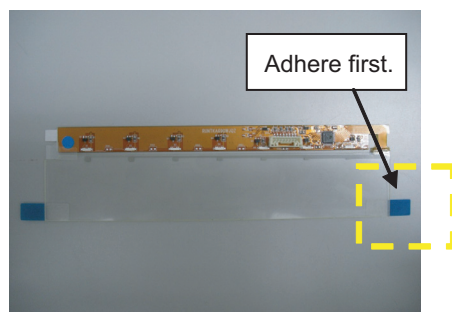
Lift the ITO section, then peel the protective sheet by about half by means of the pull tap.



* Peeling it completely reduces workability.
Check the order due to workability.

v) Contact the FPCB and joint end of the transparent electrode film with the glass.

* Grasp the opposite end. Note that the ITO is positioned by adhering.



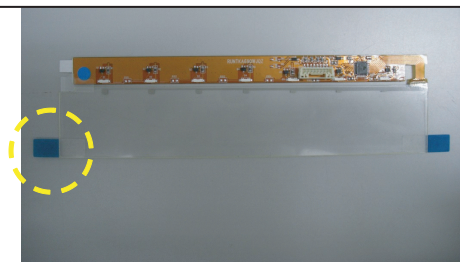
*Note: Do not bend the PWB (FPCB section)
and sheet (ITO section).

vi) Adhere the transparent electrode completely.

Peel the front protective sheet.

If bubbles are found, press those portions with glass cleaning cloth, etc. to remove them as much as possible.

Pull tap for peeling the front protective sheet



- Use a rubber roller since pressure exerted by it removes bubbles easily. See photo below.



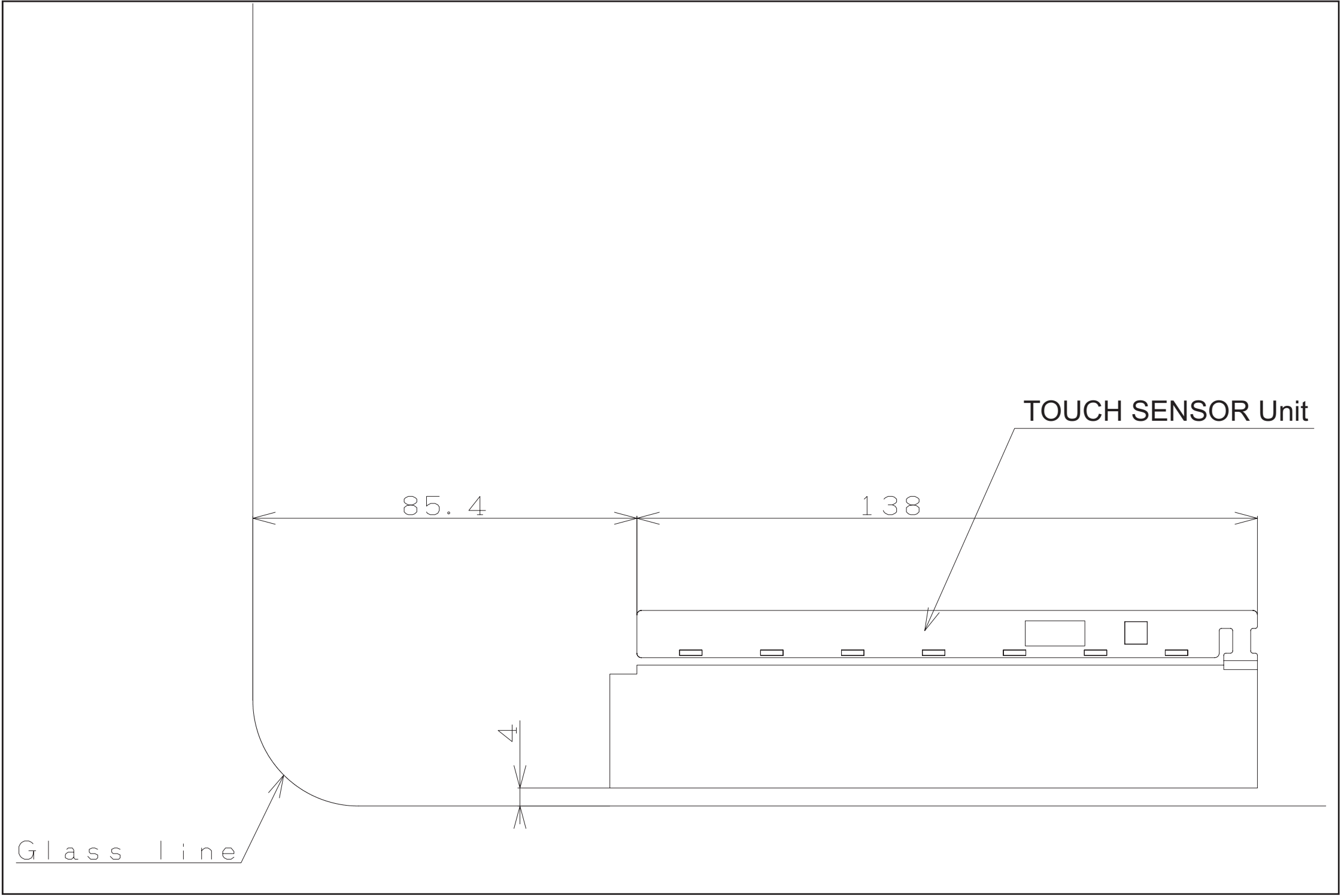
- For the TOUCH SENSOR Unit positioning figure, see page 5-1, 5-2, 5-3.

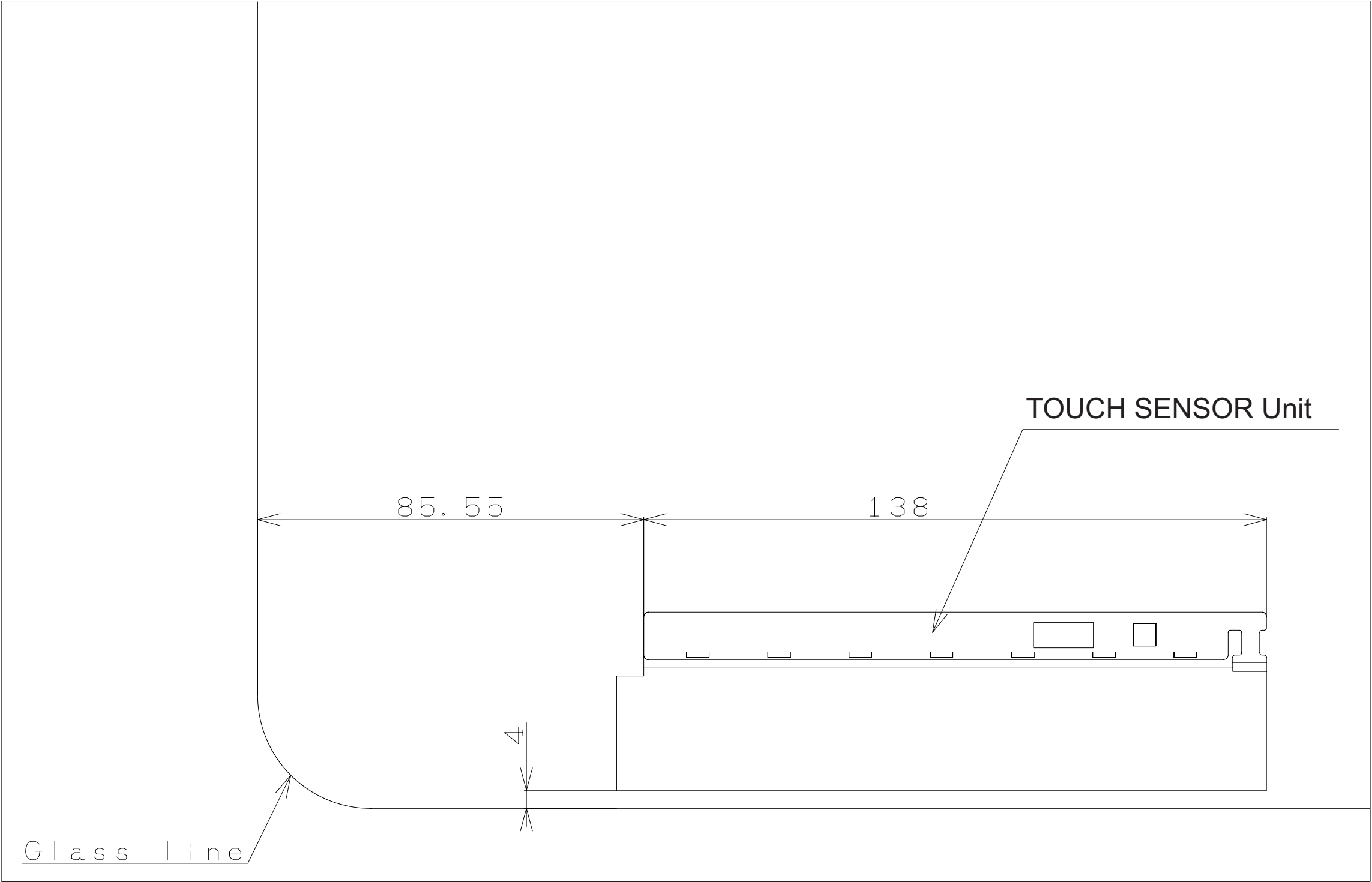
LC-40/46/52LE820E, LC-40/46LU820E

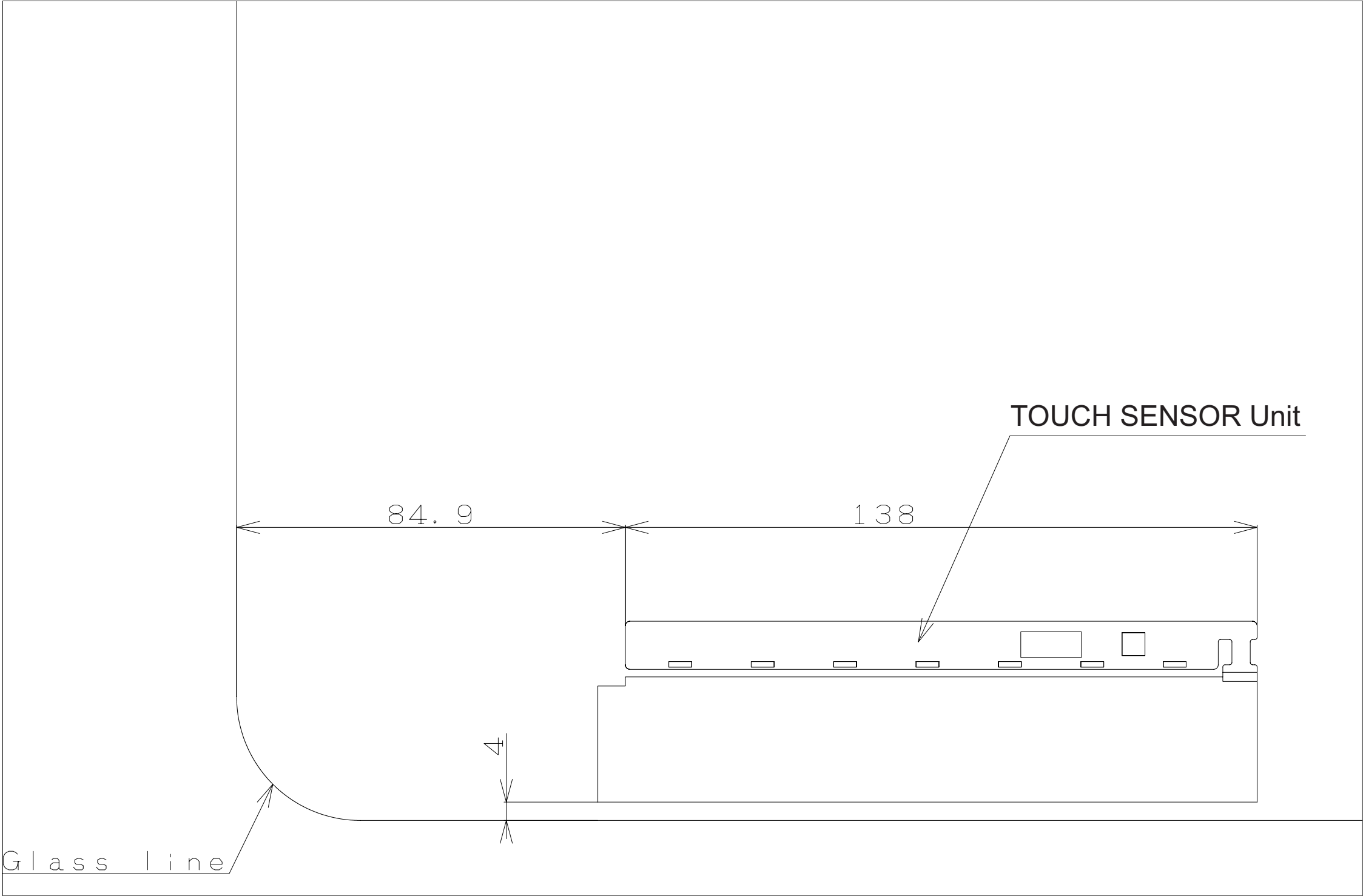
— M E M O —

CHAPTER 5. Enter the chapter title here.

[1] LC-40LE820E/LU820E







CHAPTER 6. ADJUSTMENT

[1] ADJUSTMENT PROCEDURE

1. Adjustment method after PWB and/or IC replacement due to repair

The unit is set to the optimum at the time of shipment from the factory.

If any value should become improper or any adjustment is necessary due to the part replacement, make an adjustment according to the following procedure.

1. Procure the following units in order to replace the main unit

MAIN UNIT: DKEYDF455FM01

NOTE: [Caution when replacing ICs in the main unit (IC501, IC2002)]

The above ICs are EEPROMs storing the EDID data of PC, and Monitor microcomputer.

Before replacing the relevant part, procure the following parts in which the data have been rewritten.

IC501	RH-iXD108WJQZS	PC EDID
IC2002	RH-iXC786WJNJQ	Monitor microcomputer

NOTE: [Caution when replacing ICs in the main unit (IC8401, IC3302)]

When replacing either IC8401 or IC3302, exchange MAIN units for DKEYDF455FM01

Each part should not be individually exchanged.

IC8401	RH-iXC147WJQZQ	Flash
IC3302	RH-iXC951WJQZQ	Main CPU

NOTE: HDMI ROM Writing

After replacing IC1504, execute "HDMI EDID WRITE" on the page 5/21

Please execute it after checking MODEL NAME & INCH SIZE. are correct.

IF MODEL NAME & INCH SIZE. are not correct, set them previously. (Refer to 2)

The ROM data based on information of MODEL NAME & INCH SIZE

1) Enter the process adjustment mode in TV.

2) Use the cursor keys (▲/▼) and CH keys (∧/∨) of R/C to select the item [HDMI EDID WRITE] on the page 5/21.

2. After replacing the LCD panel or LCD control/MAIN UNIT, check MODEL NAME in the following procedure.

1) Enter the process adjustment mode in TV.

2) Use the cursor keys (▲/▼) and CH keys (∧/∨) of R/C to select the item [MODEL NAME] on the page 21/21.

3) Verify that the Model name is displayed.

4) If the Model name doesn't match, select the values of the Model name with the VOL keys (+/-).

5) After selection in Step 4), press the OK key, and it is completed with OK displayed.

6) Use the cursor keys (▲/▼) and CH keys (∧/∨) of R/C to select the item [PANEL_SIZE] on the page 21/21.

7) Verify that the panel size is displayed.

8) If the size doesn't match, select the values of the panel size with the VOL keys (+/-).

9) After selection in Step 8), press the OK key, and it is completed with OK displayed.

3. After replacing the LCD panel or LCD control PWB, adjust the VCOM in the following procedure.

1) Enter the process adjustment mode.

2) Use the cursor keys (▲/▼) and CH keys (∧/∨) of R/C to select the item [VCOM ADJ] on the page 10/21.

3) Press the OK key to verify that the adjustment pattern is displayed.

4) Use VOL keys (+/-) of R/C to adjust the flicker in the center of the screen to minimum.

5) When the optimal state is achieved in Step 4, press the OK key to turn the pattern to OFF.

2. Notes of Touch sensor unit

Touch sensor unit (RUNTKA690WJQZ) is fixed directly in the module glass.

The unit cannot never be recycled when exfoliated from the module glass.

Therefore, please exchange the touch sensor units when the module glass is changed.

Please note the adhesion and mixing of dust for the module glass when the module glass and the touch sensor unit are exchanged.

Module glass

40inch: CPNLHA019WE11

46inch: CPNLHA020WJ11

52inch: CPNLHA021WJ11

3. Method of shuts down for Power supply

Please execute the following procedures to shut down Power supply from the state of normal operation.

- 1) Keep touching the power supply key on the set for 5 seconds from the state of watching.
 - * The screen disappears when power supply key is touched, but Keep pushing the power supply key.
- 2) A central icon lights between 500ms when the power supply shuts down.

Please separate the finger from the power supply key when lighting of a central icon is confirmed

4. Entering and exiting the adjustment process mode

Please execute the following procedures to enter the adjustment process mode when the power supply shuts down.

- 1) While holding down the "VOL (-)" and "INPUT" keys on the set at once, touch the power supply key on the set.

Please separate the fingers from key on the set when boot-up is confirmed with lighting of a central icon etc.

After a while, The letter "K" appears on the screen. This state is in Inspection mode.
- 2) Next, hold down the "VOL (-)" and "CH (↙)" keys on the set at once.

Multiple lines of blue characters appearing on the screen indicate that the set is now in the adjustment Process mode.

If you fail to enter the adjustment process mode (the display is the same as normal startup), retry the procedure.
- 3) To exit the adjustment process mode after the adjustment is done, unplug the AC power cord to force off the power.

(When the power is turned off with the remote controller, once unplug the AC power cord and plug it in again. In this case, wait for 10 seconds or so after unplugging.)

CAUTION: Use due care in handling the information described here lest the users should know how to enter the adjustment process mode.
If the settings are tampered with in this mode, unrecoverable system damage may result.

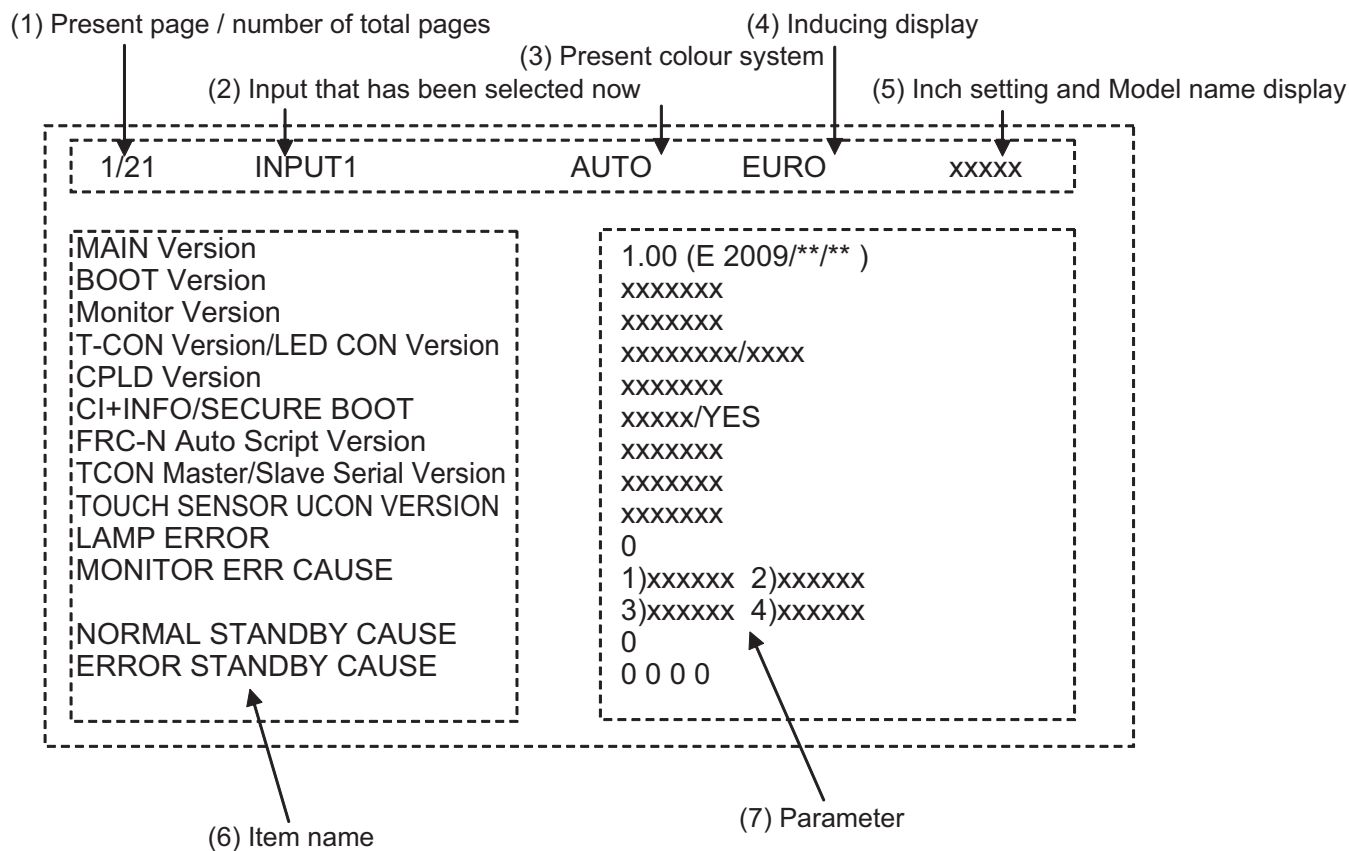
5. Remote controller key operation and description of display in adjustment process mode.

1. Key operation

Remote controller key	Main unit key	Remote controller key Main unit key Function
CH keys (↗/↘)	CH (↗/↘)	Moving an item (line) by one (UP/DOWN)
VOL keys (+/-)	VOL (+/-)	Changing a selected item setting (+1/-1)
Cursor (▲/▼)	—	Turning a page (PREVIOUS/NEXT)
Cursor (◀/▶)	—	Changing a selected line setting (+10/-10)
INPUT	INPUT	Input source switching (toggle switching) (TV→EXT1~9, USB)
OK	—	Executing a function
RETURN	—	Returning to a present page

Input mode is switched automatically when relevant adjustment is started so far as the necessary input signal is available.

6. Description of display



No.	Description	Display specification
(1)	Present page/number of total pages	2char/2char Decimal Number mark.
(2)	Input that has been selected now	TUNER/DTV/INPUT1/INPUT2/INPUT3/INPUT5/INPUT6/INPUT7
(3)	Present colour system	AUTO/N358/N443/PAL/SECAM/480i/580i/1080i/50 etc. ...
(4)	Inducing display	EUROPE
(5)	Inch setting and Model name display	Inch setting and Model name display
(6)	Item name	Max. 30 char
(7)	Parameter	Max. 60 char

7. Adjustment process mode menu

The character string in brackets [] will appear as a page title in the adjustment process menu header.

Page	Line	Item	Description	Remarks (adjustment detail, etc.)
1/21				
	1	MAIN Version	1xxx (xxxxx)	Main software version
	2	BOOT Version	xxxxxxx	BOOT Version.
	3	Monitor Version	xxxxxxx	Monitor software version
	4	T-CON Version/LED CON Version	xxxxxxx/xxxx	T-CON/H.264 Version
	5	CPLD Version	xxxxxxx	CPLD Version.
	7	CI+INFO/SECURE BOOT	xxxxx/YES	CI+ Key Information/SECURE BOOT
	8	FRC-N Auto Script Version	xxxxxxx	
	9	TCON Master/Slave Serial Version	xxxxxxx	
	10	TOUCH SENSOR UCON VERSION	xxxxxxx	
	11	LAMP ERROR	0	Number of termination due to lamp error.
	12	MONITOR ERR CAUSE	1) xxxxxx 2) xxxxxx 3) xxxxxx 4) xxxxxx	Last error standby cause.
	13	NORMAL STANDBY CAUSE	0	Situation that became standby at the end. (Excluding the error)
	14	ERROR STANDBY CAUSE	0 0 0 0	Error standby cause
2/21				
	1	INDUSTRY INIT	Enter	Initialization to factory settings execution.
	2	INDUSTRY INIT (-Public)	OFF	Initialization to factory settings execution. (Public mode is excluded)
	3	PUBLIC MODE	OFF	Public mode ON/OFF setting
	4	Center Acutime	—	Main operating hours.
	5	RESET	OFF	Main operating hours reset.
	6	Backlight Acutime	—	Backlight operating hours.
	7	RESET	OFF	Backlight operating hours reset.
	8	LAMP ERROR RESET	OFF	Lamp error reset.
	9	ADJ PARAM SET	Enter	ADJ PARAM SET
	10	VIC XPOS	0	X-coordinate setting for VIC READ
	11	VIC YPOS	0	Y-coordinate setting for VIC READ
	12	VIC SIGNAL TYPE	MAIN	Signal type setting for VIC READ
	13	VIC READ	OFF	Picture level acquisition function (Level appears in green on the upper right)
3/21				
	1	TUNER ADJ	Enter	TUNER auto adjustment execution
	2	PAL+TUNER ADJ	Enter	PAL TUNER auto adjustment execution
	3	TUNER ADJ (SMPTE)	Enter	TUNER auto adjustment execution (SMPTE)
	4	PAL+TUNER ADJ (SMPTE)	Enter	PAL TUNER auto adjustment execution (SMPTE)
	5	TUNER ADJ (SMPTE CH57)	Enter	TUNER auto adjustment execution (SMPTE CH57)
	6	PAL+TUNER ADJ (SMPTE CH57)	Enter	PAL TUNER auto adjustment execution (SMPTE CH57)
	7	TUNER CONTRAST A_GAIN	16	TUNER signal level adjustment
	8	TUNER CONTRAST D_GAIN	2073	TUNER signal level adjustment
	9	TUNER CONTRAST OFFSET	256	TUNER signal level adjustment
4/21				
	1	PAL ADJ	Enter	PAL adjustment
	2	SECAM ADJ	Enter	SECAM adjustment
	3	N358 ADJ	Enter	N358 adjustment
	4	PAL CONTRAST A_GAIN	14	PAL contrast adjustment
	5	PAL CONTRAST D_GAIN	2149	PAL contrast adjustment
	6	PAL CONTRAST OFFSET	255	PAL contrast adjustment
	7	SECAM CONTRAST A_GAIN	14	SECAM contrast adjustment
	8	SECAM CONTRAST D_GAIN	2123	SECAM contrast adjustment
	9	SECAM CONTRAST OFFSET	256	SECAM contrast adjustment
	10	N358 CONTRAST A_GAIN	14	N358 contrast adjustment
	11	N358 CONTRAST D_GAIN	2192	N358 contrast adjustment
	12	N358 CONTRAST OFFSET	255	N358 contrast adjustment

Page	Line	Item	Description	Remarks (adjustment detail, etc.)
5/21				
	1	HDMI CEC TEST	Enter	HDMI CEC test
	2	INSPECT USB TERM	Enter	Reading inspection of USB memory terminal
	3	HDMI EDID WRITE	Enter	HDMI EDID WRITING
	4	MONIDATA READ [TEMP/OPC]	OFF	MONITOR Temperature/OPC Acquisition tool.
	5	CAUSE RESET	Enter	Reset of standby cause
	6	SD CARD TEST	Size 1	SD CARD TEST
	7	SD CARD REC SIZE	xx	SD CARD REC SIZE
	8	RESET	OFF	SD CARD RESET
6/21				
	1	COMP15K ALL ADJ	Enter	Component 15K picture level adjustment
	2	COMP15K MAIN Y GAIN	141	Y GAIN adjustment value
	3	COMP15K MAIN CB GAIN	150	Cb GAIN adjustment value
	4	COMP15K MAIN CR GAIN	150	Cr GAIN adjustment value
	5	COMP15K Y OFFSET	64	Y OFFSET adjustment value
	6	COMP15K CB OFFSET	128	Cb OFFSET adjustment value
	7	COMP15K CR OFFSET	128	Cr OFFSET adjustment value
7/21				
	1	HDTV ADJ	Enter	HDTV video level adjustment
	2	HDTV Y GAIN	141	HDTV Y GAIN adjustment value
	3	HDTV CB GAIN	150	HDTV Cb adjustment value
	4	HDTV CR GAIN	150	HDTV Cr adjustment value
	5	HDTV Y OFFSET	64	HDTV Y OFFSET adjustment value
	6	HDTV CB OFFSET	128	HDTV Cb OFFSET adjustment value
	7	HDTV CR OFFSET	128	HDTV Cr OFFSET adjustment value
8/21				
	1	ANALOG PC ADJ	Enter	DVI ANALOG video level adjustment
	2	R OFFSET	64	R CUTOFF adjustment value
	3	G OFFSET	64	G CUTOFF adjustment value
	4	B OFFSET	64	B CUTOFF adjustment value
	5	R GAIN	44	R DRIVE adjustment value
	6	G GAIN	44	G DRIVE adjustment value
	7	B GAIN	44	B DRIVE adjustment value
9/21				
	1	SCART RGB ADJ	Enter	SCART RGB level adjustment
	2	SCART R CUTOFF	64	SCART R CUTOFF adjustment value
	3	SCART G CUTOFF	64	SCART G CUTOFF adjustment value
	4	SCART B CUTOFF	64	SCART B CUTOFF adjustment value
	5	SCART R GAIN	44	SCART R GAIN adjustment value
	6	SCART G GAIN	44	SCART G GAIN adjustment value
	7	SCART B GAIN	44	SCART B GAIN adjustment value
10/21				
	1	VCOM ADJ	0	Common bias adjustment
11/21				
	1	R GAIN (LO)	0	R DRIVE adjustment value
	2	G GAIN (LO)	0	G DRIVE adjustment value
	3	B GAIN (LO)	0	B DRIVE adjustment value
	4	R GAIN (HI)	0	R DRIVE adjustment value
	5	G GAIN (HI)	0	G DRIVE adjustment value
	6	B GAIN (HI)	0	B DRIVE adjustment value
12/21				
	1	MONITOR TIME OUT	ON	Monitor and the main communication time-out setting
	2	MONITOR MAX TEMP	45	MONITOR MAX temperature setting
	3	MONITOR EEP READ/WRITE	WRITE	MONITOR EEPROM READ/WRITE Setting/execution
	4	MONITOR EEP ADR	0x 0	MONITOR EEPROM arbitrary addressing
	5	MONITOR EEP DATA	0x 0	MONITOR EEPROM arbitrary data specification
13/21				
	1	LCD TEST PATTERN	OFF	Pattern with built-in LCD controler display
	2	LCD TEST PATTERN 1	OFF	
	3	LCD TEST PATTERN 2	OFF	
	4	LCD TEST PATTERN 3	OFF	
	5	LCD TEST PATTERN 4	OFF	

Page	Line	Item	Description	Remarks (adjustment detail, etc.)
14/21				
	1	FRV-N Firmware Version	xxxxx	
	2	FRC-N Boot Script Version	xxxxx	
	3	FRC-N Device Version	xxxxx	
	4	TCON FPGA1 Serial Flash Version	xxxxx	
	5	TCON FPGA2 Serial Flash Version	xxxxx	
	6	TCON FPGA1 Config Rom Version	xxxxx	
	7	TCON FPGA2 Config Rom Version	xxxxx	
15/21				
	1	POWER LED BRIGHTNESS	0	
	2	MENU LED BRIGHTNESS	0	
	3	INPUT LED BRIGHTNESS	0	
	4	CH UP LED BRIGHTNESS	0	
	5	CH DOWN LED BRIGHTNESS	0	
	6	VOL UP LED BRIGHTNESS	0	
	7	VOL DOWN LED BRIGHTNESS	0	
	8	LOGO LED BRIGHTNESS	99	
	9	ICON LED BRIGHTNESS	99	
	10	ICON LED BRIGHTNESS (STANDBY)	30	
16/21				
	1	POWER KEY SENSITIVITY	0	
	2	MENU KEY SENSITIVITY	0	
	3	INPUT KEY SENSITIVITY	0	
	4	CH UP KEY SENSITIVITY	0	
	5	CH DOWN KEY SENSITIVITY	0	
	6	VOL UP KEY SENSITIVITY	0	
	7	VOL DOWN KEY SENSITIVITY	0	
17/21				
	1	KEY STRENGTH GET MODE	Enter	
	2	POWER KEY STRENGTH		
	3	MENU KEY STRENGTH		
		INPUT KEY STRENGTH		
	4	CH UP KEY STRENGTH		
	5	CH DOWN KEY STRENGTH		
	6	VOL UP KEY STRENGTH		
	7	VOL DOWN KEY STRENGTH		
18/21				
	1	READ/WRITE	READ	Read/Write
	2	SLAVE/ADDRESS	SLAVE0	Slave address
	3	REGISTER ADDRESS	0x 0	Register address
			0x 0	
	4	WRITE DATA	0x 0	Writing data
			0x 0	
	5	READ DATA	0x 0	Reading data
			0x 0	
19/21				
	1	RF AGC BG	6	RF-AGC BG adjustment execution
	2	RF AGC DK	5	RF-AGC DKG adjustment execution
	3	RF AGC I	6	RF-AGC I adjustment execution
	4	RF AGC L/L'	4	RF-AGC L/L' adjustment execution
20/21				
	1	ERROR STANDBY CAUSE 1	NO RECORD	ERROR STANDBY CAUSE
	2	ERROR STANDBY CAUSE 2	NO RECORD	
	3	ERROR STANDBY CAUSE 3	NO RECORD	
	4	ERROR STANDBY CAUSE 4	NO RECORD	
	5	ERROR STANDBY CAUSE 5	NO RECORD	
	6	STANDBY CAUSE RESET	OFF	Reset stand by cause.

Page	Line	Item	Description	Remarks (adjustment detail, etc.)
21/21				
	1	EEP SAVE	OFF	Writing setting values to EEPROM.
	2	EEP RECOVER	OFF	Reading setting values from EEPROM.
	3	MONITOR ERROR CAUSE RESET	OFF	Reset of monitor error cause
	4	MODEL NAME	LE705	MODEL NAME
	5	PANEL SIZE	40	Panel size setting. (40/46/52)
	6	SHORT CHECK MODE	Enter	Check LED Back light
	7	SHORT CHECK CURRENT	60	
	8	CURRENT SW	LOW	
	9	PRODUCT EEP ADR	0x 0	Don't touch when serving (for producer of factory)
	10	PRODUCT EEP DATA	0x 0	Don't touch when serving (for producer of factory)
	11	PRODUCT FACTORY	1	Don't touch when serving (for producer of factory)

8. Special features

1. NORMAL STANDBY CAUSE (Page 1/21)

Display of a cause (code) of the last standby.

The cause of the last standby is recorded in EEPROM whenever it is possible.

Checking this code will be useful in finding a problem when you repair the troubled set.

2. EEP SAVE (Page 21/21)

Storage of EEP adjustment value

3. EEP RECOVER (Page 21/21)

Retrieval of EEP adjustment value from storage area.

4. MONITOR ERR CAUSE (Page 1/21)

Display of a cause (code) of Error from sub-Microcomputer.

The cause of Error is recorded in EEPROM whenever it is possible.

Checking this code will be useful in finding a problem when you repair the troubled set.

1) This displays Error code and time when the error occurred.

The latest error is displayed on "1)"

The error that happens ahead of "1)" is displayed on "2)".

2) The character depends on the way how to acquire Time Information

T: Time is acquired from digital broadcasting

This doesn't contain "Time offset" which is considered a time difference and Daylight-Saving Time, etc. ...

U: Time is acquired from analog broadcasting (teletext)

B: Accumulation time of Backlight

In the case that Time information cannot be acquired, "B" is displayed.

Example) In this example, it is shown that the error occurred 3 times.

1) 16 T07/01/01 12:03 Error code: 16 (lamp error) Time: 07/01/01 12:03

* It is latest Error.

* Time is acquired from digital broadcasting.

* Time is UTC which doesn't have Time offset.

2) 16 U01/01/01 04:07 Error code: 16 (lamp error) Time: 07/01/01 04:07

* It is Error that happens ahead of "1)".

* Time is acquired from analogue broadcasting.

3) 16 B00000004:11 Error code: 16 (lamp error) Accumulation time: It is displayed that 4:11 have passed after Backlight driving.

* It is Error that happens ahead of "2)".

4) 00 00000000000000 No error ("00" shows that the error is not occurred.)

9. Lamp Error detection

1. Function

This LCD colour TV set incorporates a Lamp error detection feature that automatically turns off the power for safety under abnormal lamp or lamp circuit conditions. If by any chance anything is wrong with the lamp or lamp circuit or if the lamp error detection feature is activated for some reason, the following will result.

- 1) The power is interrupted in about 500ms after it is turned on.

(A central icon on the front of the TV flash on and off.: ON for 400ms and OFF for 1600ms.).

- 2) If the above phenomenon 1) occurs 5 times, it becomes impossible to turn on the power.

(A central icon keep flashing on/off.)

2. Measures

- 1) Set the lamp error detection to OFF

Enter the adjustment process mode, referring to "4. Entering and exiting the adjustment process mode."

The adjustment process mode can ignore "5 times count", so If the above phenomenon 1) occurs 1~4 times, the lamp will go out.

If Lamp Error detection pin (6pin of LB: P9602) is "High" by a trouble with the lamp and lamp circuit, it can boot-up by the adjustment process mode.

Please execute "**Lamp Error detection off-mode**".

While holding down the "VOL (-)" and "CH (^)" keys on the set at once, touch the power supply key on the set.

After a central icon flash off, separate the fingers from key on the set.

Touch the power supply key on the set again, so the power will boot-up.

Then, you can check the operation to see if the lamp and lamp circuit are in trouble.

If you fail boot-up, retry the procedure.

- 2) Resetting the lamp error count

After the lamp and lamp circuit are improved from a trouble, reset the lamp error count.

(Because the power cannot be turned on, if a lamp error is detected 5 consecutive times)

- a) Enter the adjustment process mode, referring to "4. Entering and exiting the adjustment process mode."

- b) Using the cursor (▲/▼) key, move to the cursor to [LAMP ERROR RESET], Line 8 on adjustment process mode service page 2/21.

- c) With the cursor (◀/▶) keys, select the [LAMP ERROR RESET] value.

Finally press the cursor (OK)., the count is reset.

Check LAMP ERROR Count on adjustment process mode Page 2/21.

Table of contents of adjustment process mode Page 2/21

INDUSTRY INIT	Enter	
INDUSTRY INIT (-Public)	OFF	
Public MODE	OFF	
Center Acutime	...	
RESET	OFF	
Backlight Acutime	...	
RESET	OFF	
LAMP ERROR RESET	OFF	← Resetting to "0"
ADJ PARAM SET	Enter	
VIC XPOS	0	
VIC YPOS	0	
VIC SIGNAL TYPE	MAIN	
VIC READ	OFF	

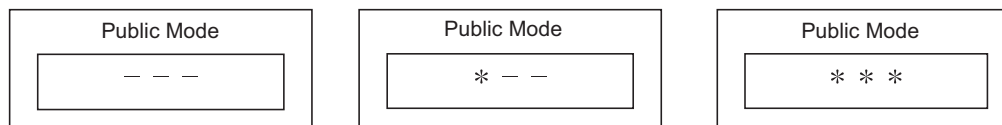
10. Public Mode

1. Starting the Public Mode

- There are two following ways to display the PUBLIC Mode setting screen.

1) Method of needing password

- Turn off the power, refer to "3. Method of shuts down for Power supply"
- While holding down the "INPUT" and "Volume (+)" keys on the set at once, touch the power supply key on the set.
Please separate the finger from the power supply key when boot-up is confirmed with lighting of a central icon etc.
After a while, value of Public Mode appears on the screen.
- Display the Pass Word input screen.



Operation procedure

- The initial input position is the digit at the left end.
 - For the numeric keys "0" to "9" of R/C, key input is accepted.
Input of the other keys is prohibited.
 - Change "—" to "*" by inputting the numeric key at the input position, and shift the input position rightward one digit.
 - When three digits are completely input, the Pass Word is judged.
- d) Check the Pass Word by inputting three digits.
If the Pass Word "0" "2" "7", it shifts to the PUBLIC Mode setting screen.
In another case, the screen is erased, and it operates in the ordinary mode.

2. Exiting the Public Mode Setting screen

- There are two following ways to exit the Public Mode setting screen.

1) Turn off the power.

2) Select "Execution" in the PUBLIC_Mode to execute it.

Activate the restart under the set content.

Here, the START input SOURCE setting is excluded since this item is referred to only when the power is turned on.

3. Set value of the Public Mode

- When the shipment setting is done, a set each value in Public Mode is initialized.
(PUBLIC MODE in the process mode Setting of a flag is also initialized)
- Separately, the shipment beginnings when all except for each set value in Public Mode is initialized are provided for a process mode.
(INDUSTRY INIT (-Public))
- Only when turning on the PUBLIC MODE item, each setting is effective.
- After it decides it with EXECUTE, it AC OFF/ON it to reflect a set value.

4. Basic operation in the Public Mode

Vol (+/-) or Cursor (◀/▶)	Change or execution of the set value.
CH (⤴/⤵) or Cursor (▲/▼)	Movement to the selected item.
Decision (ok)	Execution (Used by the items "Execution" and "RESET".)

Public Mode setting screen.

Public Mode	
POWER ON FIXED	[VARIABLE]
SHUT DOWN MODE	[NORMAL]
MAXIMUM VOLUME	[60]
VOLUME FIXED	[VARIABLE]
VOLUME FIXED LEVEL	[20]
RC BUTTON	[RESPOND]
PANEL BUTTON	[RESPOND]
MENU BUTTON	[RESPOND]
AV POSITION FIXED	[VARIABLE]
ON SCREEN DISPLAY	[YES]
INPUT MODE START	[NORMAL]
INPUT MODE FIXED	[VARIABLE]
LOUD SPEAKER	[ON]
RC PATH THROUGH	[OFF]
232C POWON	[DISABLE]
PUBLIC MODE	[ON]
RESET	
EXECUTE	

5. Operation after "RESET"

Select "RESET" in the PUBLIC Mode, and it operates as follows when it is executed (refer to the basic operation).

- The set contents in the PUBLIC mode are initialized.
- It does not exit the PUBLIC mode.
- If "EXECUTE" is not executed, the content that does RESET is not reflected.

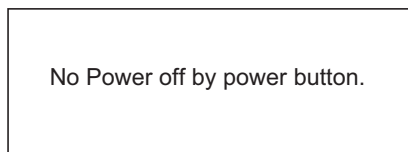
6. Setting items (* Item names and selective items are expressed in English.)

1) Power ON fixed [POWER ON FIXED]

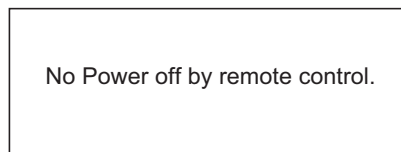
Option	"VARIABLE", "FIXED_ALL", "FIXED_BODYKEY" or "RCRESPOND" (loop enabled)
Default	"VARIABLE"
Function	• VARIABLE : "POWER/RECEPTION" key on TV unit or remote control is enabled. • FIXED_ALL : "POWER/RECEPTION" key on TV unit or remote control is disabled. • FIXED_BODYKEY : only the "MAIN POWER" key on TV unit is disabled (the remote control is enabled). • RC RESPOND : the main unit's POWER switch toggles between ON and Standby (the same operation by the remote control).
Key disabled when set other than default	• OFF TIMER (SLEEP) (* Only when setting to FIXED_ALL)
Remarks	• When selecting to "FIXED_ALL", function related standby factors (see below) doesn't work. and not selecting OFF TIMER (Sleep) No operation OFF No signal OFF (including the power management) * These items does not exist according to the model.

If the power button is pressed in the ordinary mode in setting to "FIXED_ALL" and "FIXED_BODYKEY", the caution is displayed for 5 seconds.

When power button on the main unit is pressed



When power button on R/C is pressed



* The OSD display is an example.

If another ODS is previously displayed, the status is reset (MENU or similar).

2) Instantaneous current shutdown setting in turning off the power [SHUT DOWN MODE]

Option	"NORMAL" or "QUICK"
Default	NORMAL
Function	This function decides whether scanning digital tuner is enabled or disabled when the power is standby. NORMAL : Scanning digital tuner is enabled when the power is standby. QUICK : Scanning digital tuner is disabled It is possible to put into the standby state instantaneously due to power off input, when the power is standby. Immediately, state is a complete standby.
Remarks	In selecting "QUICK", the function does not work for the following items (selection impossible.) - ON TIMER, QUICK START, DIGITAL FIXED, etc. * These items does not exist according to the model.

3) Volume maximum level [MAXIMUM VOLUME]

Option	0~60 (loop disabled)
Default	60
Function	The volume cannot be increased more than the adjusted value (the main unit's speaker only).
Remarks	- When setting to 59 or less, only the figure is displayed in the normal mode; the volume bar is not displayed. - The volume of the headphones is limited. or monitor output - The setting is impossible when VOLUME FIXED is set to FIXED.

4) Volume fixed [VOLUME FIXED]

Option	"VARIABLE", "FIXED", "ACCTRL" or "AC/RCCTRL" (loop enabled)
Default	"VARIABLE"
Function	- VARIABLE : The volume is not fixed. - FIXED : The volume is fixed to the value adjusted in the volume fixed level. - AC CTRL : The unit starts at the volume specified in the volume fixed level, when power is turned on in the case of the AC-ON only. - AC/RC CTRL : The unit starts at the volume specified in the volume fixed level, when power is turned on in any case. (AC→ON, remote control→ON, main unit's key→ON)
Exception	In the adjustment process, the volume can be set to any level regardless of this setting.
Disabled key when setting to FIXED	- VOLUME UP/DOWN [both remote control and main unit] - MUTE
Remarks	[MAXIMUM VOLUME] has priority to [VOLUME FIXED] * When setting to FIXED, Maximum volume is fixed. - The volume of the headphones is fixed. - When setting to "FIXED", the volume is not displayed in operating Disabled key - In menu operation, the main unit's keys (Vol (+/-)) are enabled.

5) Volume fixed level [VOLUME FIXED LEVEL]

Option	0~60 (loop disabled)
Default	20
Function	The volume is fixed to the adjusted value (the main unit's speaker only).
Exception	In the adjustment process, the volume can be set to any level regardless of this setting.
Remarks	When [VOLUME FIXED] is set to "VARIABLE", the setting cannot be changed.

6) Remote control operation [RC BUTTON]

Option	"RESPOND", "NORESPOND" or "LIMITED" (loop enabled)
Default	"RESPOND"
Function	The operation of the remote control's keys is set. RESPOND : the remote control's keys in the normal state are enabled. NO RESPOND : the remote control's keys in the normal state are disabled. The POWER key (RECEPTION/STANDBY key) is also disabled. LIMITED : only a part of keys (CHANNEL, etc.) is enabled and other keys are disabled.
Exception	- In the adjustment process mode, inspection mode are enabled regardless of this setting. - All the keys are enabled regardless of this setting while entering the adjustment process mode, inspection mode or Public Mode setting screen.
Remarks	The enable keys when setting to "LIMITED" are depended on keys of controller for Public. It is different according to Model.

7) Main Unit Operation [PANEL BUTTON]

Option	"RESPOND" or "NORESPOND" (loop enabled)
Default	"RESPOND"
Function	• RESPOND : The main unit's keys are enabled. • NO RESPOND : The main unit's keys are disabled excluding the POWER key (RECEPTION/STANDBY key).
Exception	• The start operation in the adjustment process mode, inspection mode are enabled regardless of this setting. • All the keys are enabled regardless of this setting while entering the adjustment process mode, inspection mode or Public Mode setting screen. • For the models with the MENU key on the main unit, menu operation is possible regardless of the setting during the initial setting when the power is turned on for the first time.

8) Menu operation [MENU BUTTON]

Option	"RESPOND" or "NO RESPOND" (loop enabled)
Default	"RESPOND"
Function	The MENU key on the main unit and remote control is decided whether it is enabled or disabled.
Exception	• RESPOND : The menu key is enabled. • NO RESPOND : The menu key is disabled. : The start operation in the adjustment process mode, inspection mode is enabled regardless of this setting. : All the keys are enabled regardless of this setting while entering the process mode, inspection mode or Public Mode setting screen.
Disabled key excluding Menu key when setting to not default	All the direct transition keys to menu display (AUTO PRESET, MANUAL MEMORY and others) * These keys does not exist according to the model.
Remarks	When setting to "NO RESPOND" • For the models with the MENU key on the main unit, menu operation is possible regardless of the setting while the initial setting when the power is turned on for the first time

9) AV position fixed [AV POSITION FIXED]

Option	"VARIABLE" or "FIXED" (loop enabled)
Default	"VARIABLE"
Function	• VARIABLE : AV position is not fixed. • FIXED : AV position is fixed. : The image/sound adjustment items in the menu are fixed in the selected state. : When receiving "AV POSITION" of the remote control, only the actual state is displayed, and setting is not changed.
Remarks	• When receiving the sound select direct keys (AV POSITION key, OPC, DOLBY key, etc.), only the actual state is displayed; no setting is changed. * These keys does not exist according to the model. • The settings for the Public mode are retained after the personal data is initialized, each item for the AV position and image/sound adjustment are not initialized.

10)OSD display [ON SCREEN DISPLAY]

Option	"YES", "NO" or "LIMITED" (loop enabled) "LIMITED" is looped only in case of need (destination).
Default	"YES"
Function	• YES : OSD is displayed • NO : the following OSD is not displayed. Registration, setting, adjustment menu, channel call, volume bar, and input select • LIMITED : only a part of OSD (CH call: "New Information" etc. ...) is not displayed.
Key which may be enabled (Example of the confusing key)	• It is OK in the case that simple input select occurs or the original state returns soon automatically.
Disabled key when setting to not default	• When setting to "NO", the keys which are related to visibility of the screen and sound cannot be used. STILL IMAGE, SCREEN DISPLAY, OFF TIMER, AV POSITION, BRIGHTNESS SENSOR, SCREEN SIZE SELECT, AUTO PRESET, MANUAL MEMORY, IMAGE SELECT, SOUND SELECT, LANGUAGE, Closed caption * Disabled keys depend on the models.
Remarks	• When setting to "NO", ON TIMER (Watching reservation) is cleared. OFF TIMER "SLEEP" is cleared. * These items do not exist according to the model. • When setting to "NO", These Displays (Version-up, Public mode setting screen, Pass Word input screen of Public Mode, the adjustment process mode, K mark of inspection mode) are enabled regardless of this setting.

11)Start mode [INPUT MODE START]

Option	"NORMAL" or "Input source 1 (input selection or channel)" . . . (loop enabled)
Default	"NORMAL"
Function	which kinds of input source or channel is decided when the power turning on. NORMAL : the content of the last memory is followed.
Remarks	• When setting to not Normal, ON TIMER (Watching reservation) has priority. • When setting to "NORMAL", [INPUT MODE FIXED] is set to "VARIABLE". and [INPUT MODE FIXED] is prohibited to select. (selection impossible.)

Example of option: "NORMAL"

"TV (002TV)", "INPUT1", "INPUT2", "INPUT3", "HDMI1", "HDMI2", "HDMI3", "HDMI4".

12)Input fixed [INPUT MODE FIXED]

Option	"VARIABLE" "FIXED", "ACCTRL" or "AC/RCCTRL" (loop enabled)
Default	VARIABLE
Function	VARIABLE : If [INPUT MODE START] is set to Normal, input mode is not fixed. FIXED : when "INPUT MODE START" is active, it is impossible to switch to another channel or input source. AC CTRL : when "INPUT MODE START" is active the unit starts at the input mode which is selected when power is turned on in the case of the AC-ON only. AC/RC CTRL : when "INPUT MODE START" is active the unit starts at the input mode which is selected when power is turned on in any case (AC→ON, remote control→ON, main unit's key→ON)
Disabled key when setting to "FIXED"	CHANNEL (+/-), DIRECT CHANNEL buttons, FLASHBACK, INPUT SELECT, TV/VIDEO, AUTO PRESET, MANUAL MEMORY, i.LINK, DIRECT INPUT SELECT, ATV, DTV, EPG, RADIO etc. ...
Remarks	• If [INPUT MODE START] is Normal, this function cannot be set. Set to "VARIABLE" automatically. • When setting to "FIXED", The item related to the channel setting and input selection in Menu are not displayed. ON TIMER (Watching reservation) is not active. * These items do not exist according to the model.

13)Speaker ON/OFF selection [LOUD SPEAKER]

Option	"ON" or "OFF" (loop enabled)
Default	ON
Function	ON : The sound from the speakers is output. OFF : The sound from the speakers is not output even if the headphones are not used.
Remarks	- When the VOL (+/-) key is pressed, the mute icon is displayed for 4 seconds. - For the MUTE key and sound-related keys, caution is displayed. - For the headphones, normal operation is possible.

14)Remote control path through [RC PATH THROUGH]

Option	"OFF", "ON: TVRCE" or "ON: TVRCD" (loop enabled)
Default	OFF
Function	The item decide whether the signal received by the remotecontrol' slight-receiving section is output to the blankpin (9pin) of RS232C. OFF : this function is not active. ON: TVRCE : this function is active, and remote control is active, too ON: TVRCD : this function is active, but remote control is not active
Exception	- In the case of "ON:TV RCD", the start operation in the adjustment process mode, inspection mod are enabled regardless of this setting. - In the case of "ON: TV RCD", all the keys are enabled regardless of this setting while entering the adjustment process mode, inspection mode or Public mode setting screen.
Remarks	* Remote control path through does not exist according to the model.

15)232C power ON control [232C POWON]

Option	"ENABLE" or "DISABLE" (loop enabled)
Default	DISABLE
Function	The item decide whether Power ON by the 232C command is enabled/disabled in the standby state. The same function as 232C command "RSPW". ENABLE : POWR0001 is always enabled. DISABLE : Start-up may be impossible at POWR0001. (If the 232C command reception module is set to OFF, the command is invalid.)

16)Public mode setting [PUBLIC MODE]

Option	"OFF" or "ON" (loop enabled)
Default	OFF
Function	The item decide whether Public mode setting menu are enabled or disabled. The same item as [PUBLIC MODE] in the adjustment process menu. OFF : Public mode is not active ON : Public mode is active
Remarks	Each operation of the Public mode is impossible unless this item is set to ON.

11. Video signal adjustment procedure

The adjustment process mode menu is listed in Section 5.

Signal generator level adjustment check (Adjustment to the specified level)

- Composite signal PAL/SECAM : 0.7Vp-p $\pm$ 0.02Vp-p (Pedestal to white level)
- RGB signal : 0.7Vp-p $\pm$ 0.02Vp-p
- 15K component signal (50 Hz) : Y level : 0.7Vp-p $\pm$ 0.02Vp-p (Pedestal to white level)
: PB, PR level : 0.7Vp-p $\pm$ 0.02Vp-p
- 33K component signal (50 Hz) : Y level : 0.7Vp-p $\pm$ 0.02Vp-p (Pedestal to white level)
: PB, PR level : 0.7Vp-p $\pm$ 0.02Vp-p
- ANALOG RGB signal : RGB level : 0.7Vp-p $\pm$ 0.02Vp-p

11.1. Entering the adjustment process mode

Enter the adjustment process mode according to Section 4.

11.2. PAL signal adjustment

	Adjustment point	Adjustment conditions	Adjustment procedure
1	Setting	[Signal] PAL Full field colour bar composite signal [Terminal] EXT1 SCART IN	Feed the PAL full field colour bar signal (75% colour saturation) to EXT1 SCART IN. [VIDEO input signal]
2	Auto adjustment performance	Adjustment process [PAL ADJ] page 4/21	Bring the cursor on [PAL ADJ] and press [OK]. [PAL ADJ OK] appears when finished.

* **ATTENTION:** Please execute [3. TUNER adjustment] afterwards if you adjust [2. PAL signal adjustment] after all adjustments are completed.

11.3. TUNER adjustment

	Adjustment point	Adjustment conditions	Adjustment procedure
1	Setting	[Signal] PAL split field colour Bar RF signal UV [Terminal] TUNER	- Feed the PAL Split Field colour bar signal (E-12ch) to TUNER. - Make sure the PAL colour bar pattern has the sync level of 7:3 with the picture level. Signal level: 55 dB μ V $\pm$ 1dB (75 Ω LOAD) [E-12CH]
2	Auto adjustment performance	Adjustment process [TUNER ADJ] page 3/21	Bring the cursor on [TUNER ADJ] and press [OK]. [TUNER ADJ OK] appears when finished.

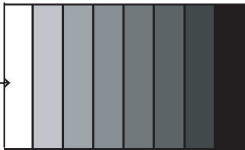
11.4. SECAM adjustment

	Adjustment point	Adjustment conditions	Adjustment procedure
1	Setting	[Signal] SECAM Full field colour Bar Signal [Terminal] EXT1 SCART IN	Feed the SECAM full field colour bar signal (75% colour saturation) to EXT1 SCART IN. [VIDEO input signal]
2	Auto adjustment performance	Adjustment process [SECAM ADJ] page 4/21	Bring the cursor on [SECAM ADJ] and press [OK]. [SECAM ADJ OK] appears when finished.

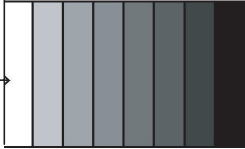
11.5. ADC adjustment (Component 15K)

	Adjustment point	Adjustment conditions	Adjustment procedure
1	Setting	[Signal] COMP15K, 50Hz 100% Full field colour bar Signal [Terminal] EXT3 COMPONENT IN	Feed the COMPONENT 15K 100% full field colour bar signal (100% colour saturation) to EXT3 COMPONENT IN. 
2	Auto adjustment performance	Adjustment process [COMP15k ALL ADJ] page 6/21	Bring the cursor on [COMP15k ALL ADJ] and press [OK] [COMP15k ALL ADJ] [OK] appears when finished.

11.6. ADC adjustment (Component 33K)

	Adjustment point	Adjustment conditions	Adjustment procedure
1	Setting	[Signal] COMP33K, 50Hz 100% Full field colour bar Signal [Terminal] EXT3 COMPONENT IN	Feed the COMPONENT 33K 100% full field colour bar signal (100% colour saturation) to EXT3 COMPONENT IN. 
2	Auto adjustment performance	Adjustment process [HDTV ADJ] page 7/21	Bring the cursor on [HDTV ADJ] and press [OK]. [HDTV ADJ OK] appears when finished.

11.7. PC signal adjustment (ANALOG RPG)

	Adjustment point	Adjustment conditions	Adjustment procedure
1	Setting	[Signal] XGA, 60Hz 100% Full Field Colour Bar Signal [Terminal] EXT3 PC IN	Feed the XGA 60Hz 100% full field colour bar signal (100% colour saturation) to EXT3 PC IN. 
2	Auto adjustment performance	Adjustment process [ANALOG PC ADJ] menu page 8/21	Bring the cursor on [ANALOG PC ADJ] and press [OK]. [ANALOG PC ADJ OK] appears when finished.

11.8. RGB (SCART) adjustment (RGB 15K)

	Adjustment point	Adjustment conditions	Adjustment procedure
1	Setting	[Signal] RGB 15K, 50Hz 100% Full field colour bar signal [Terminal] EXT1 SCART RGB IN	Feed the RGB 15k 50Hz 100% full field colour bar signal (100% colour saturation) to EXT1 SCART IN. 
2	Auto adjustment performance	Adjustment process [SCART RGB ADJ] menu page 9/21	Bring the cursor on [SCART RGB ADJ] and press [OK]. [SCART RGB ADJ OK] appears when finished.

12. White Balance Adjustment

For white balance adjustment, adjust the offset values on pages 11/21.

[Condition of the unit for inspection] : Modulated light (+16), Colour temperature (High)

AV MODE: DYNAMIC

Active Backlight: OFF

OPC: OFF

Asing Time: Min,60 minute

[Input signal condition] : HDMI 1080i 15IRE (LO), 78IRE (HI)

[Adjustment reference device] : Minolta CA-210

[Adjustment procedure]

- 1) Display the current adjustment status at R/G/B_GAIN (HI). (Page 11/21 of process adjustment)

The signal of 78IRE is input.

- 2) Read the value of the luminance meter. $x = 0.272$, $y = 0.277$

- 3) Change R_GAIN (HI)/B_GAIN (HI) (Adjustment offset value) on page 11/21 of process adjustment so that the values of the luminance meter approach $x = 0.272$ and $y = 0.277$.

(Basically, G is not changed. If adjustment fails with R and B, change G. When G is lowered, the weaker of R or B must be fixed.)

- 4) Display the adjustment status of the current R/G/B_GAIN (LO).

The signal of 15IRE is input.

Change R_GAIN (LO)/B_GAIN (LO) (adjustment offset value) on page 11/21 of process adjustment so that the values of the luminance meter approach $x = 0.272$ and $y = 0.277$.

- 5) Both HI and LO are repeating the step from 1 to 4 until becoming an aim value.

[Adjustment reference standard value]

Adjustment spec ± 0.002 Inspection spec ± 0.004 (point LO)

Adjustment spec ± 0.001 Inspection spec ± 0.002 (point HI)

- 6) After completing adjustments, set EEP SAVE (21/21) to ON in the process menu to save the white balance adjustment value.

13. Confirmation item

1. HDMI-CEC Inspection

After repairing the CEC function, check the operation about HDMI-CEC circuit

2. CI card Inspection

After repairing the CI function, check that the DTV signal is received in the UK setting by inserting CAM

And check the KEY certification by inserting CAM which is prepare for CI+

3. LAN Inspection

After repairing the LAN function, check the communication by connecting PC and LAN terminal.

14. Initialization to factory settings

CAUTION: When the factory settings have been made, all user setting data, including the channel settings, are initialized.
(The adjustments done in the adjustment process mode are not initialized.) Keep this in mind when initializing these settings.

	Adjustment point	Adjustment conditions	Adjustment procedure
1	Factory settings	ends by turning off the MAIN POWER key. (See to below caution)	[Factory setting with adjustment process mode] - Enter the adjustment process mode. - Move the cursor to [INDUSTRY INIT] on page 2/21. - Use the R/C key to select a region from [EUROPE/RUSSIA] and press the [OK] key. "EXECUTING" display appears. - After a while, "SUCCESS" display appears, the setting is completed. When succeeding: Background colour (green) When failing: Background colour (red) The following items are initialized in the factory setting. 1) User settings 2) Channel data (e.g. broadcast frequencies) 3) Maker option setting 4) Password data

After adjustments, exit the adjustment process mode.

To exit the adjustment process mode, unplug the AC power cord from the outlet to forcibly turn off the power.

When the power is turned off with the remote control, unplug the AC power cord and plug it back in (wait approximately 10 seconds before plugging in the AC power cord)

Please execute the initialized in the factory setting again when you turn on the power supply after the initialized in the factory setting is set.

15. Upgrading the software

1. Turn on the AC power.
2. Insert the upgrading USB flash memory for upgrade into the service slot.
(After a while, an external input changes into USB automatically.)
3. Use the Menu button and cursor keys (◀/▶/▲/▼), CH keys (⧻/⧼) of R/C or on the set to select Menu - Setup - Information - Software update on OSD menu.
4. The message (Insert the USB memory device contains the software update file) shows up.
Push OK when if there is no problem.
5. After a while, if software update file is detected in the USB memory device, the following screen shows up.
Select OK when if there is no problem.

NOTE: If there is no software update file in the USB memory device, caution shows up.

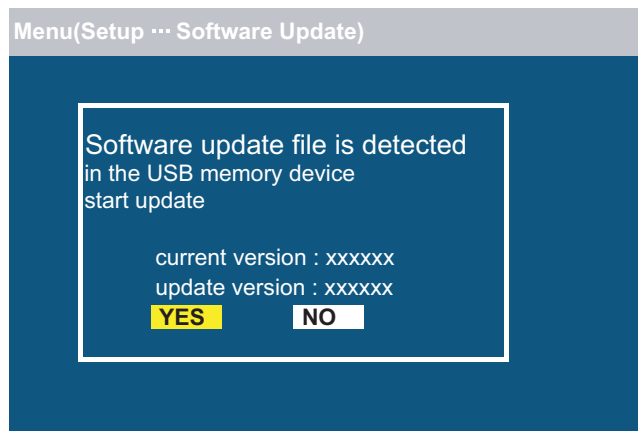
Please insert the correct file and retry software update.

NOTE: If software update file in the USB memory device doesn't match this model, caution shows up.

Please insert the correct file and retry software update.

NOTE: If software update file in the USB memory device is already installed, caution shows up.

Please reconfirm the software version and reinstall (if necessary).

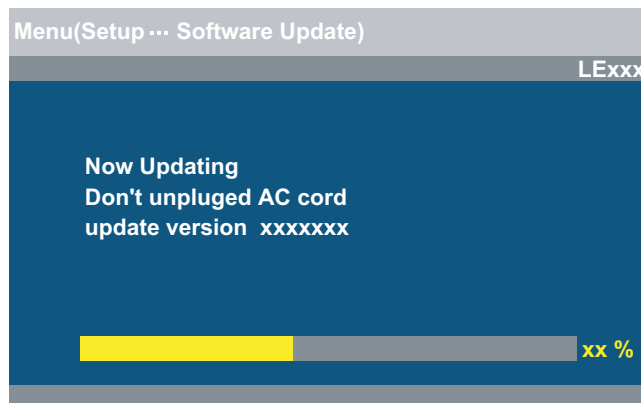


6. The caution for update shows up.
- The picture will temporary go dark until the software update display appears
 - Wait several minutes and don't unplug the AC cord
- Select OK when if there is no problem.

7. Software update starts.

Please wait for a while until the bar shows 100%

NOTE: Do not take out the USB memory device during updating.

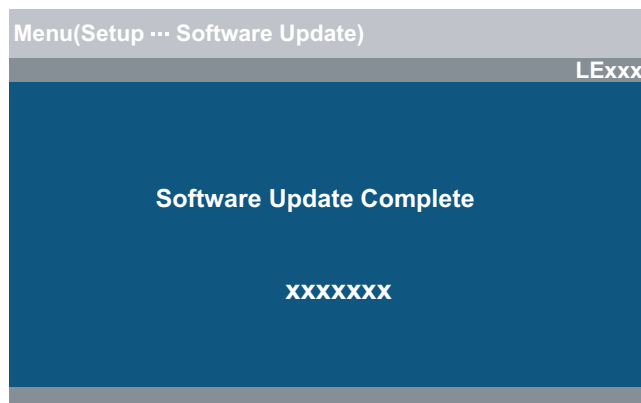


8. When all the procedures are complete, the following upgrade success screen shows up.

The new software version can be confirmed on screen.

After a while, Turn off power and boot-up automatically.

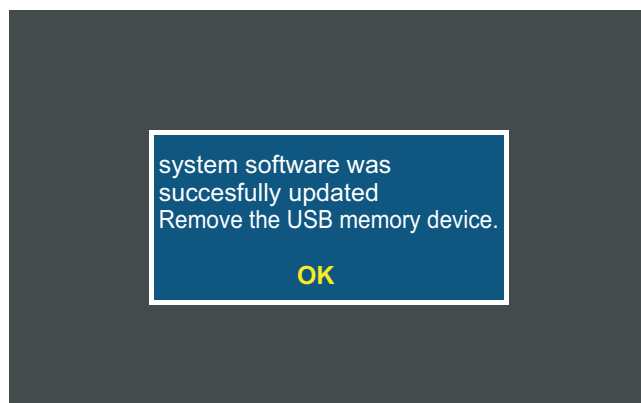
NOTE: TV is restarted automatically, the AC code need not be pulled out.



9. After boot-up, the following caution shows up.

Select OK when if there is no problem.

Software update is completed, please remove the USB memory device.



NOTE: Then get the set started and call the process adjustment screen 1/21 to check the main software version.

CHAPTER 7. TROUBLESHOOTING TABLE

[1] TROUBLESHOOTING TABLE

No power (Central Icon LED failure to light up) or No startup (Central Icon LED is flashing)		
↓		
Is the AC cord connector tightly connected to the set?	NO →	Reconnect the AC cord tightly and turn on the power again.
↓ YES		
Are the wire harnesses and other cables properly connected in the set?	NO →	Reconnect the wire harnesses and other cables properly in the set.
↓ YES		
Is there the pins (11/BU+5V) of P9601 as specified?	NO →	Replace the power unit.
↓ YES		
Is there the pins (10/PS_ON) of P9601 at "H"?	NO →	Check the signal line between PS_ON and IC2002.
↓ YES		
Is there the pins (9/AC_DET) of P9601 at "H"?	NO →	Check the power unit, and the signal line between AC_DET and IC2002.
↓ YES		
Is there the pins (1, 2, 3, 4/UR+13V) of P9601 at "H"?	NO →	Check the signal line between PS_ON and IC2002.
↓ YES		
Are the DC/DC converter outputs and the output voltages along the control lines as specified?	NO →	Check the DC/DC converters and the control lines. Replace defective parts as required.
1) BU3.3V (IC9609 etc.) 2) D3.3V (IC9605 etc.) 3) D5.6V (IC9608 etc.) 4) D5V (IC9612 etc.) 5) D+1.8V (IC9606 etc.) 6) D+1.05V (IC9604 etc.) 7) STB+3.3V (Q9604 etc.) 8) S+8V (IC9610 etc.) 9) CPU+1.2V (IC9603 etc.)		

The sound is not emitted from the Speaker & Woofer though the picture has come out.

No sound output in all modes?

↓ YES

Is the signal output from pins (F30/AOLRCK), (F28/AOBCK) (G28/AOSDATA0) of IC3302 (Digital AV decode & Main CPU)?

NO
→

Check IC3302 and its peripheral circuits.

↓ YES

Is the signal sent to pins (7), (8), (9) of IC2701 (DSP)?

NO
→

Check the line between IC3302 and IC2701.

↓ YES

Is the signal output from pins (43/AOBCKL), (44/AMP_LRCLK), (45/AMP_DATA_LR), (46/AMP_DATA_SW), (47/AMP_MCLK) of IC2701?

NO
→

Check IC2701 and its peripheral circuits.

↓ YES

In the case that the sound is not emitted from the Speaker, refer to (A)
In the case that the sound is not emitted from the Woofer, refer to (B)

↓ (A)

Is the signal sent to pins (5), (6), (7), (8) of IC2703 (SP_AMP)?

NO
→

Check the line between IC2701 and IC2703.

↓ YES

Is the audio signal output from pins (28/OUTML), (30/OUTPL), (12/OUTPR), (14/OUTMR) of IC2703?

NO
→

Check IC2703 and its peripheral circuits.

↓ YES

Is the audio signal input to pins (1, 2/L-ch), (3, 4/R-ch) of IC2703?

NO
→

P2701 terminal and the peripheral circuit (L/C filter) are checked.

↓ YES

Check Speaker (right and left) and wire harness.

↓ (B)

Is the signal sent to pins (5), (6), (7), (8) of IC2702 (Woofer_AMP)?

NO
→

Check the line between IC2701 and IC2702.

↓ YES

Is the audio signal output from pins (28/OUTML), (30/OUTPL), (12/OUTPR), (14/OUTMR) of IC2702?

NO
→

Check IC2702 and its peripheral circuits.

↓ YES

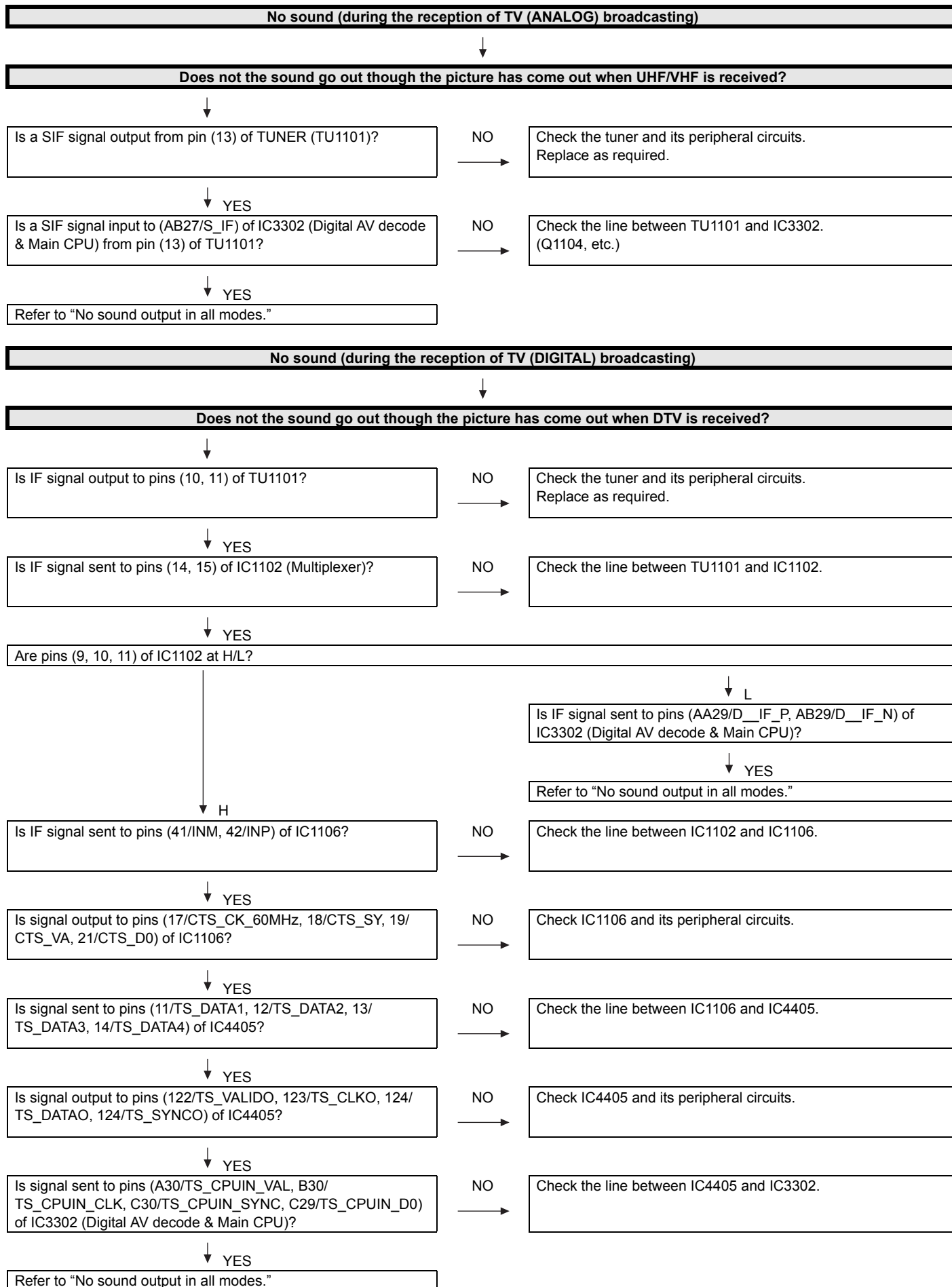
Is the audio signal input to pins (1/SUB(+)), (2/SUB(-)) of IC2702?

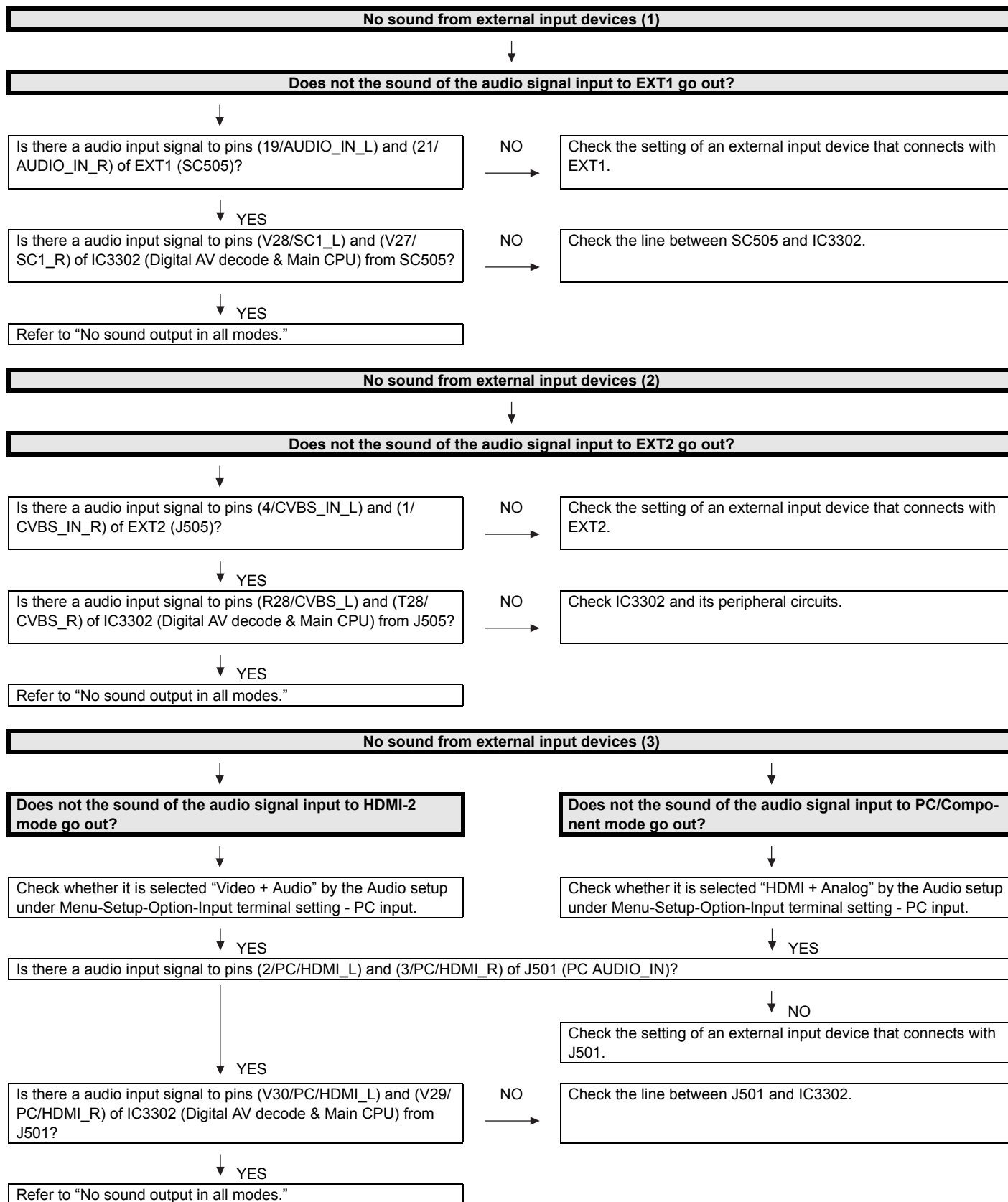
NO
→

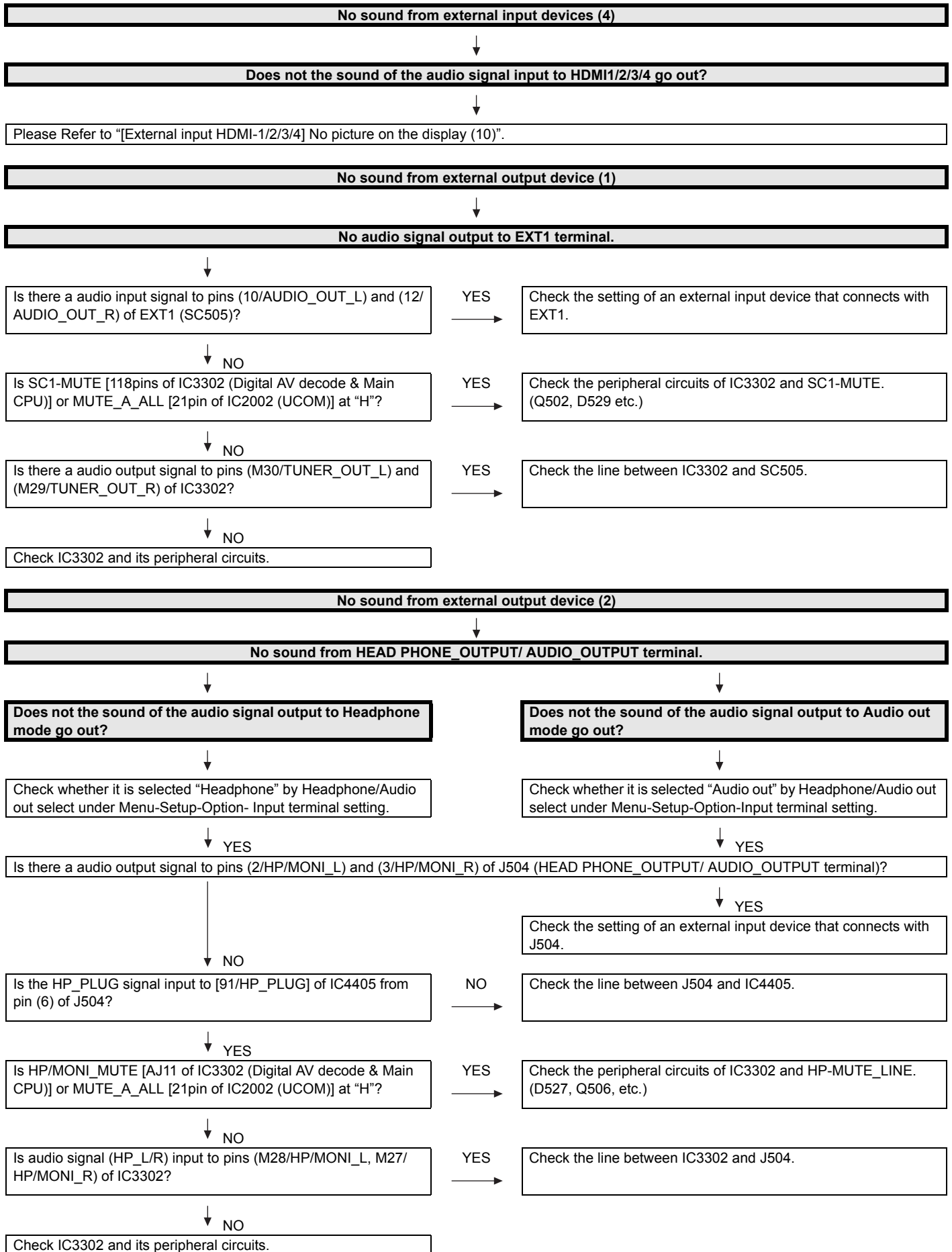
P2702 terminal and the peripheral circuit (L/C filter) are checked.

↓ YES

Check Woofer (right and left) and wire harness.







No sound from external output device (3)**No sound from DIGITAL AUDIO OUTPUT terminal.**

Is the audio signal output to pins (1) of sound output terminal (D520)?

YES

Check D520 and peripheral circuits.

↓ NO

Is SPDIF_MUTE signal SPDIF_MUTE [H29/IC3302] or MUTE_A_ALL [21pin of IC2002 (UCOM)] at "H"?

YES

Check the peripheral circuits of IC3302 and SPDIF_MUTE. (Q505, D530, etc.)

↓ NO

Is an audio signal input to pin (2) of IC503 from [J28/SPDIF_OUT] of IC3302 and is the logic signal input into pin (1) of IC503?

YES

Check the IC503 and peripheral circuits.

↓ NO

Check IC3302 and its peripheral circuits.

No sound from external output device (4)**Does not the sound of the audio signal output to HDMI1 go out?**

Is the audio signal output to pins (14) of SC1503 (HDMI1 terminal)?

YES

Check SC1503 and peripheral circuits.

↓ NO

Is the audio signal output to pins (8) (10) (12) of IC1508?

YES

Check the line between SC1503 and IC1508.

↓ NO

Is the audio signal input to pins (9) (11) (13) of IC1508?
Is the audio signal output to pins (6) of IC1508?
Is the audio signal input to pins (5) of IC1508?

YES

Check SC1508 and peripheral circuits.

↓ NO

Is the audio signal output to pins (4) of IC1505?

YES

Check the line between IC1508 and IC1505.

↓ NO

Is SPDIF_MUTE signal ARC_MUTE [AK2/IC3302] or MUTE_A_ALL [21pin of IC2002 (UCOM)] at "H"?

YES

Check the peripheral circuits of IC3302 and ARC_MUTE. (Q1501, D1513, etc.)

↓ NO

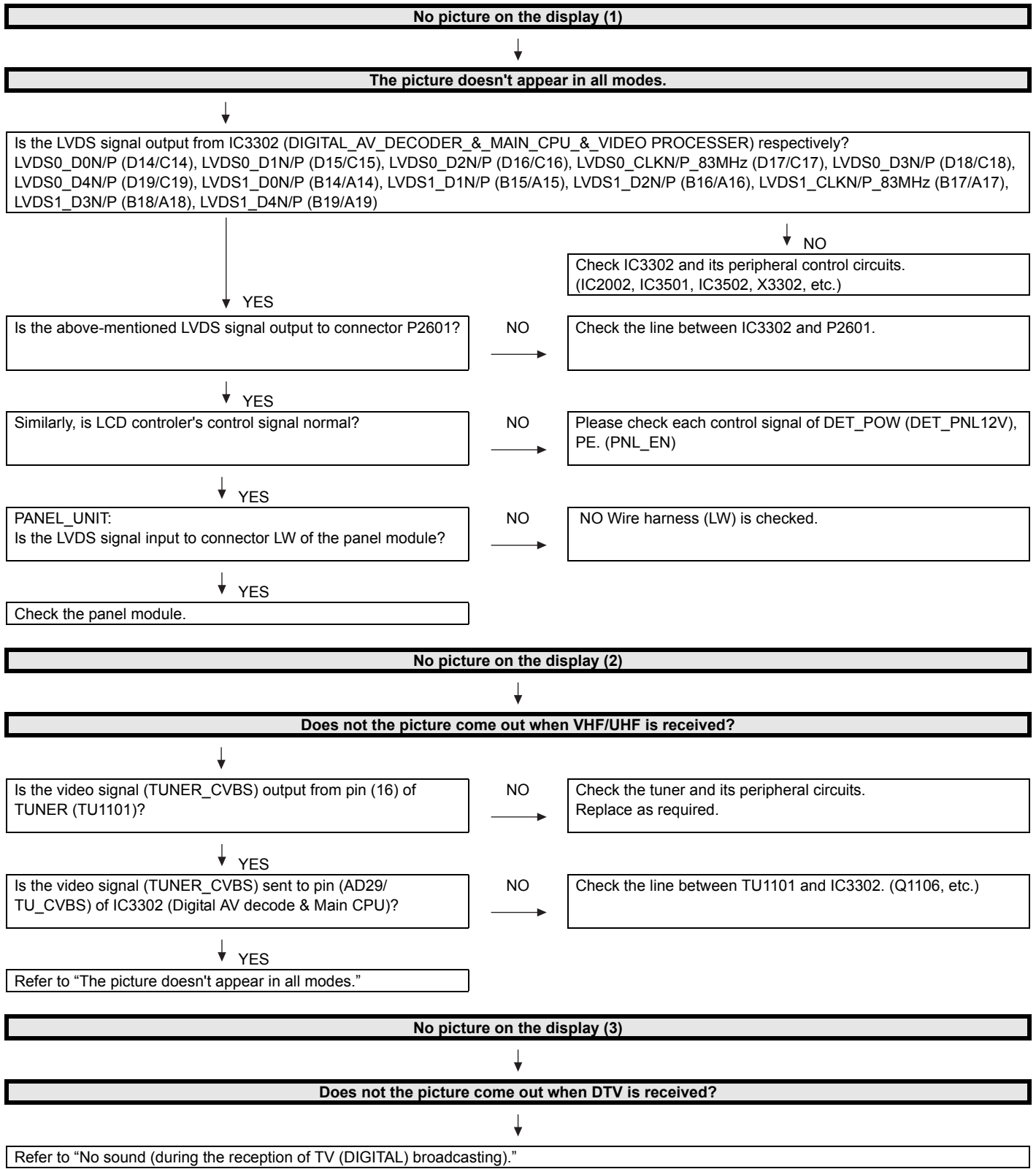
Is an audio signal input to pin (2) of IC1505 from [J28/SPDIF_OUT] of IC3302 and is the logic signal input into pin (1) of IC1505?

YES

Check the IC1505 and peripheral circuits.

↓ NO

Check IC3302 and its peripheral circuits.



[External input EXT1] No picture on the display (4)**Does not the picture of the CVBS signal input to EXT1 go out?**

Is CVBS signal sent to pin (14) of EXT1 (SC505)?

NO

Check the setting of an external input device that connects with EXT1.

YES

Is CVBS signal from EXT1 (SC505) sent to pin (AG29/
SC1_CVBS_Y) of IC3302 (Digital AV decode & Main CPU)?

NO

Check the line between SC505 and IC3302.

YES

Refer to "The picture doesn't appear in all modes."

[External input EXT1] No picture on the display (5)**Does not the picture of the Y/C video signal input to EXT1 go out?**Is Y/C video signal sent to pins (14)/Y and (4)/C of EXT1
(SC505)?

NO

Check the setting of an external input device that connects with EXT1.

YES

Is Y/C signal from EXT1 (SC505) sent to pins (AG29/
SC1_CVBS_Y) and (AG28/SC1_C1) of IC3302 (Digital AV
decode & Main CPU)?

NO

Check the line between SC505 and IC3302.

YES

Refer to "The picture doesn't appear in all modes."

[External input EXT1] No picture on the display (6)**Does not the picture of the R/G/B signal input to EXT1 go out?**Is RGB1 signal sent to pins (4)/RGB_IN_RED/C, (6)/
RGB_IN_GREEN and (8)/RGB_IN_BLUE of EXT1 (SC505)?

NO

Check the setting of an external input device that connects with EXT1.

YES

Is RGB1 signal from EXT1 (SC505) sent to pins (AH22/RED1),
(AJ22/GREEN_1) and (AJ21/BLUE_1) of IC3302 (Digital AV
decode & Main CPU)?

NO

Check the line between SC505 and IC3302.

YES

Refer to "The picture doesn't appear in all modes."

[External input EXT2] No picture on the display (7)**Does not the picture of the CVBS signal input to EXT2 go out?**

Is a CVBS signal input to pin (3) of EXT8 (J505)?

NO

Check the setting of an external input device that connects with EXT2.

YES

Is CVBS signal sent to pin (AE29/CVBS_IN) of IC3302?

NO

Check the line between J505 and IC3302.

YES

Refer to "The picture doesn't appear in all modes."

[External input EXT3] No picture on the display (8)**Does not the picture of the component video signal input to EXT3 (15pin-D-SUB terminal) go out?**

Is it selected "Component" by the Audio setup under Menu-Setup-Option-Input terminal setting - Input select?

NO

Set the "Component".

YES

Is a COMPONENT video signal input to pins (1)/PC_R_COM, (2)/PC_G_COM, (3)/PC_B_COM of EXT3 (SC501)?

NO

Check the setting of an external input device that connects with EXT3.

YES

Is COMPONENT signal sent to pins (AJ17/PC_R_CM), (AJ16/PC_G_CM) and (AJ15/PC_B_CM) of IC3302?

NO

Check the line between SC501 and IC3302.

YES

Refer to "The picture doesn't appear in all modes."

[External input EXT3] No picture on the display (9)**Does not the picture of the DVI (ANALOG) video signal input to EXT3 (15pin-D-SUB terminal) go out?**

Is it selected "PC (RGB)" by the Audio setup under Menu-Setup-Option-Input terminal setting - Input select?

NO

Set the "PC (RGB)".

YES

Are the video signal and the synchronized signal input from pin (1, 2, 3)/(PC_R, G, B), (14 and 13)/(V, H.Sync) of EXT4 (SC501)?

NO

Check the connection and setup with the external DVI devices.

YES

Are the video signal and the synchronized signal input from pins (AK17/PC__R) (AK16/PC__G) (AK15/PC__B) and (AK14/PC_HSYNC) (AJ14/PC_VSYNC) of IC3302 (Digital AV decode & Main CPU)?

NO

Check the line between SC501 and IC3302.

YES

Refer to "The picture doesn't appear in all modes."

[External input HDMI-1/2/3/4] No picture on the display (10)

Does not the picture/sound of the HDMI signal input to HDMI-1/2/3/4 go out?

Is the Hot plug detection function output from pin (19) of the HDMI-1 (SC1503) normal?

Is the Hot plug detection function output from pin (19) of the HDMI-2 (SC1502) normal?

Is the Hot plug detection function output from pin (19) of the HDMI-3 (SC1501) normal?

Is the Hot plug detection function output from pin (19) of the HDMI-4 (SC1505) normal?

NO → Check the line between SC1503 and pin (45) of IC1504 (HDMI-SW).

NO → Check the line between SC1502 and pin (41) of IC1504 (HDMI-SW).

NO → Check the line between SC1501 and pin (35) of IC1504 (HDMI-SW).

NO → Check the line between SC1505 and pin (31) of IC1504 (HDMI-SW).

↓ YES

Is EDID data pins (44/HDMI1_SCL), (43/HDMI1_SDA) of IC1504 accessed, and is it read from pins (15, 16) of a HDMI-1 (SC1503)?

Is EDID data pins (40/HDMI2_SCL), (39/HDMI2_SDA) of IC1504 accessed, and is it read from pins (15, 16) of a HDMI-2 (SC1502)?

Is EDID data pins (34/HDMI3_SCL), (33/HDMI3_SDA) of IC1504 accessed, and is it read from pins (15, 16) of a HDMI-3 (SC1501)?

Is EDID data pins (30/HDMI3_SCL), (29/HDMI3_SDA) of IC1504 accessed, and is it read from pins (15, 16) of a HDMI-4 (SC1505)?

NO → Is access possible in the exchange of IC1504?

↓ NO

Check the peripheral circuit of SC1502/1503/1505/1501 and IC1504.

↓ YES

Is TMDS signal input into pins (20, 19/HDMI1_CLKP/N), (22, 21/HDMI1_D0P/N), (24, 23/HDMI1_D1P/N), (26, 25/HDMI1_D2P/N) of IC1504 from HDMI-1 (SC1503)?

Is TMDS signal input into pins (12, 11/HDMI2_CLKP/N), (14, 13/HDMI2_D0P/N), (16, 15/HDMI2_D1P/N), (18, 17/HDMI2_D2P/N) of IC1504 from HDMI-2 (SC1502)?

Is TMDS signal input into pins (2, 1/HDMI3_CLKP/N), (4, 3/HDMI3_D0P/N), (6, 5/HDMI3_D1P/N), (8, 7/HDMI3_D2P/N) of IC1504 from HDMI-3 (SC1501)?

Is TMDS signal input into pins (66, 65/HDMI4_CLKP/N), (68, 67/HDMI4_D0P/N), (70, 69/HDMI4_D1P/N), (72, 71/HDMI4_D2P/N) of IC1504 from HDMI-4 (SC1505)?

NO → Check the line between HDMI-1 (SC1503) and IC1504.

NO → Check the line between HDMI-2 (SC1502) and IC1504.

NO → Check the line between HDMI-3 (SC1501) and IC1504.

NO → Check the line between HDMI-4 (SC1505) and IC1504.

↓ YES

Are TMDS_Rx and the I2C_SINK signal output from IC1504 respectively?

Pins (62, 63/SW_TMDS_CLKP/N), (60, 61/SW_TMDS_D0P/N), (58, 59/SW_TMDS_D1P), (56, 57/SW_TMDS_D2P)

NO → Check the IC1504 and peripheral circuits.

↓ YES

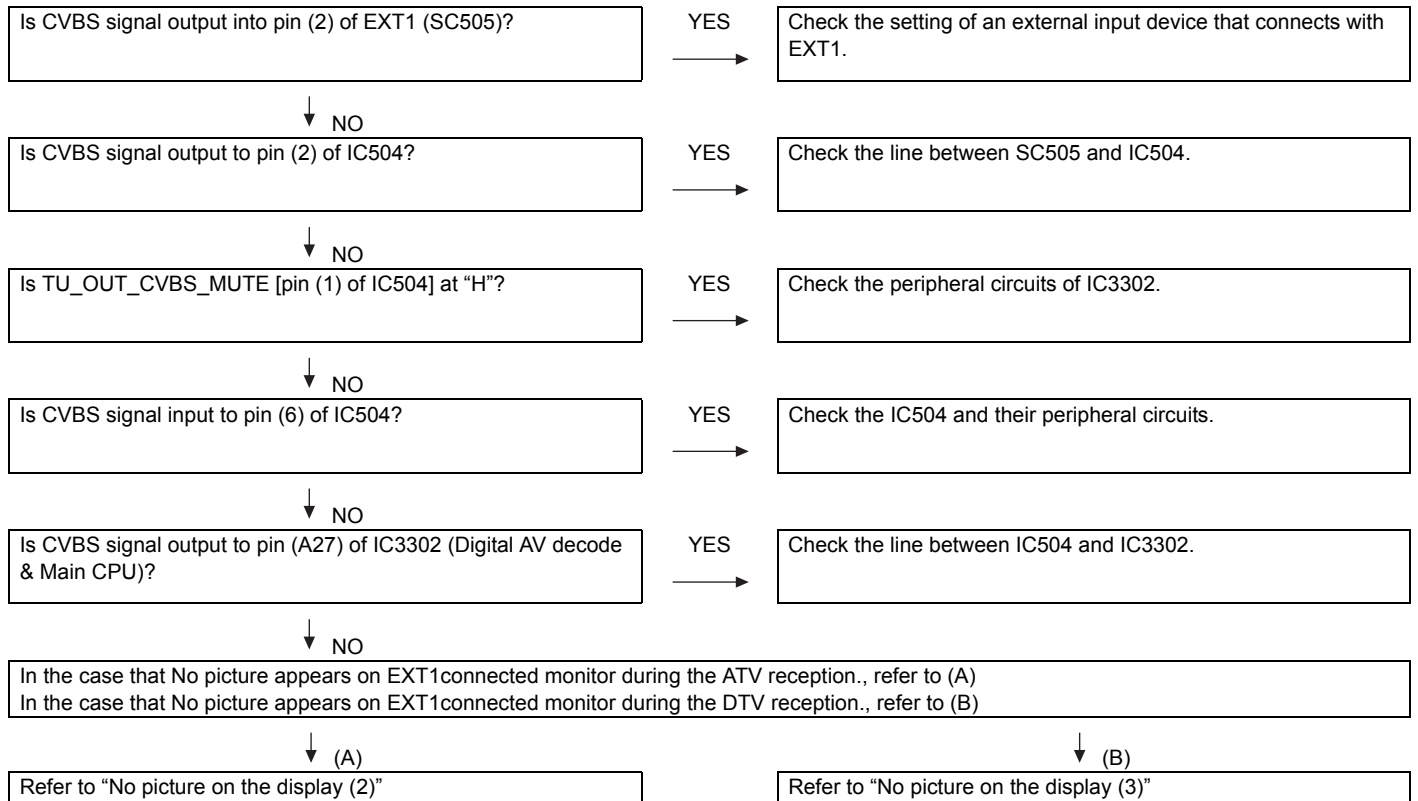
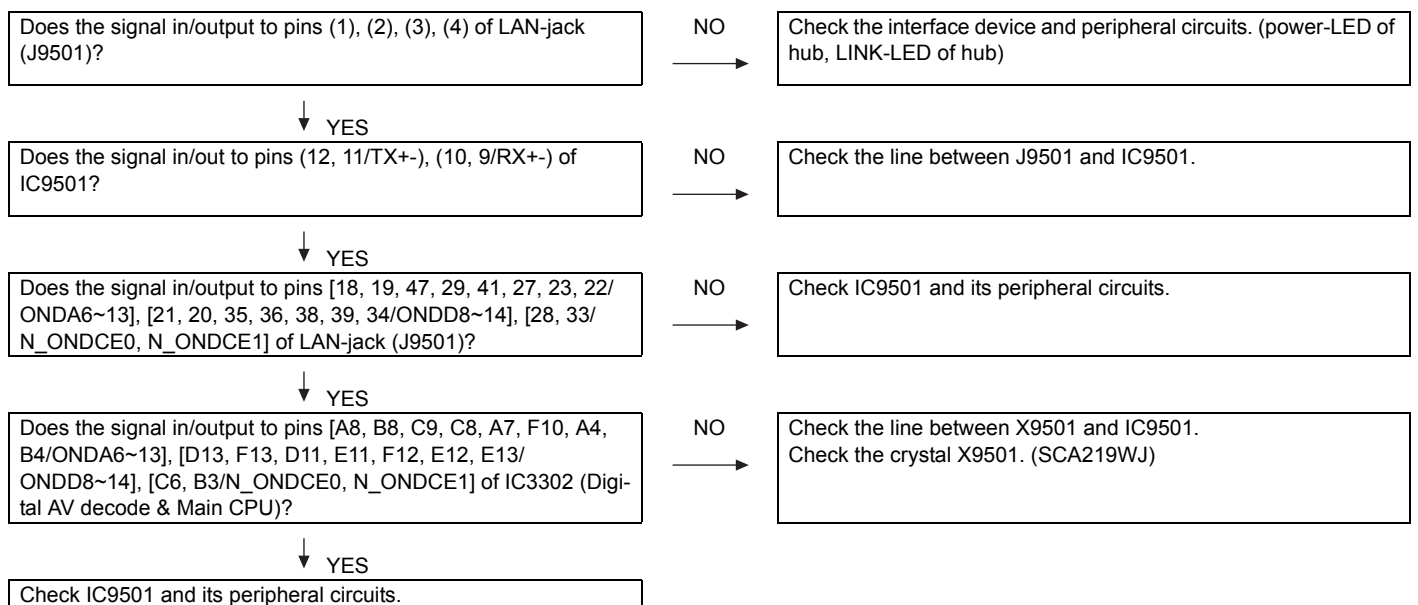
Is the TMDS_Rx/ I2C_SINK signal input to IC3302 (Digital AV decode & Main CPU)?

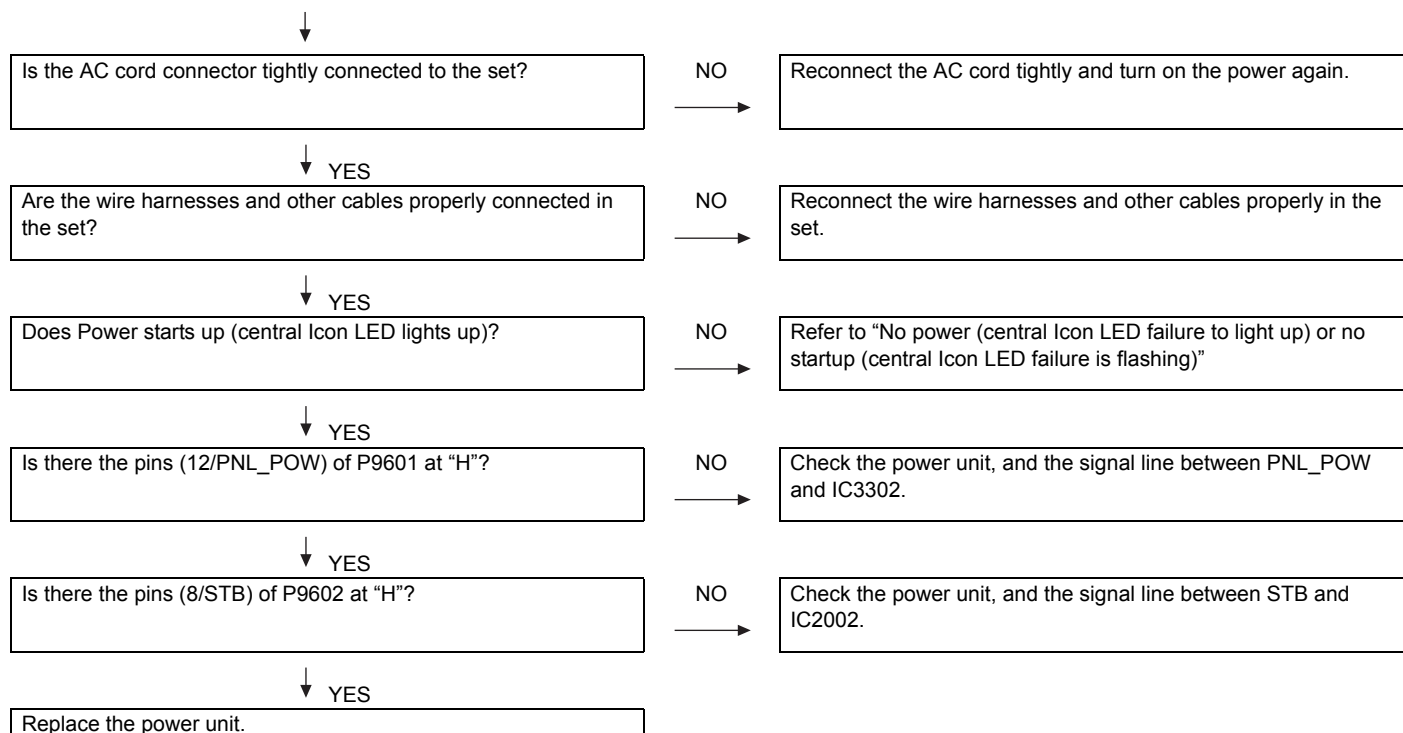
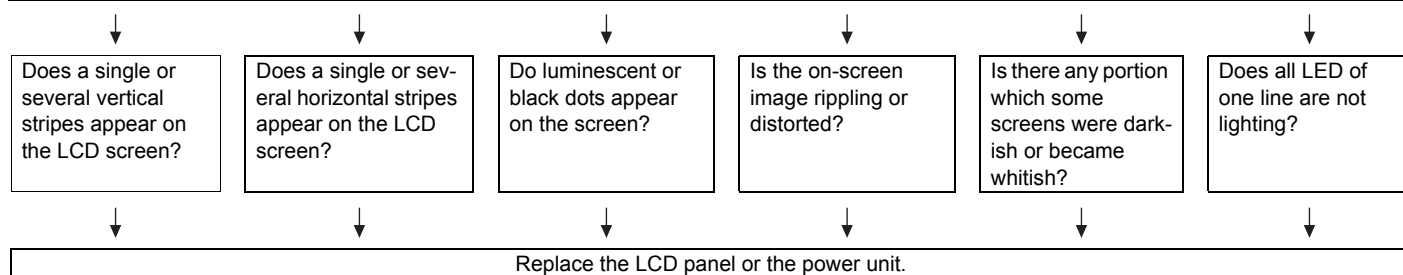
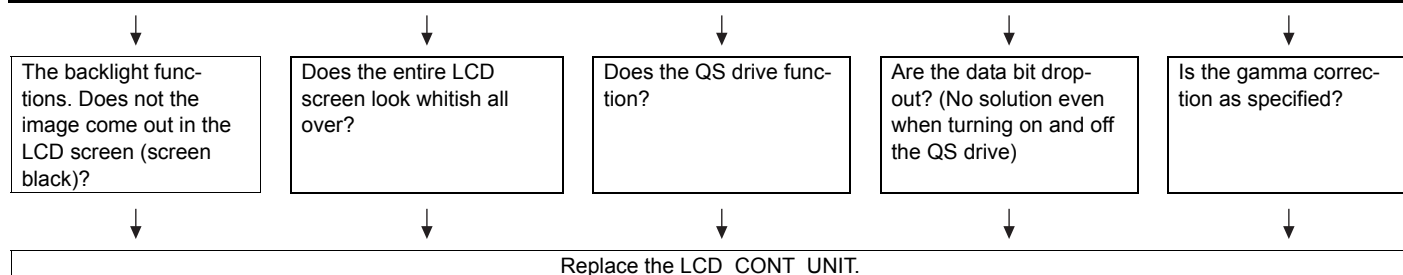
Pins (AK6, AJ6/SW_TMDS_CLKP/N), (AK7, AJ7/SW_TMDS_D0P/N), (AK8, AJ8/SW_TMDS_D1P/N), (AK9, AJ9/SW_TMDS_D2P/N) from IC1504

NO → Check the line between IC1504 and IC3302.

↓ YES

Refer to "The picture doesn't appear in all modes." or "No sound output in all modes."

<During external connection> No picture on the monitor**No picture appears on EXT1connected monitor during the ATV/DTV reception.****[External input Network] No picture on the display****Does not the signal input to Network go out?**

No light (Back Light doesn't light)**LCD Panel failure (1)****LCD Panel failure (2)**

- Refer to Table 1.

- LED that can be used is only one of the central icons.

- For this model, the blinking pattern displayed first is only a low-speed blinking.

This expresses a rough content of the error.

- For this model, details are displayed by high-speed blinking by pushing remote control MENU key.

This expresses **details of the error**.

Details are distinguished by the blinking frequency.

- It doesn't return to the outline display again (blink at low speed) by pushing the MENU key (The toggle is not done).

Please confirm "MONITOR ERR CAUSE" of the adjustment Process mode (1/21), when the error doesn't reproduce by having returned from the error.

- The process of the upgrade is expressed by the brightness of point LED that smoothness changes.

- The upgrade completion is expressed by the LED brightness that changes in a staircase pattern.

<Examination for a rough content of the error>

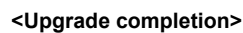
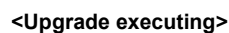


Table 1. Concrete flashing pattern

Item	Expression for a rough content		Expression for Details		Cause
	low-speed blinking	high-speed blinking	low-speed blinking	high-speed blinking	
Lamp system failure	Flashes once	—	Flashes once	Flashes once	Lamp error
Power PWB failure (Power failure, etc.)	Flashes twice	—	Flashes twice	Flashes once	Power Error 1 AC_DET error (*2)
				Flashes twice	Power Error 2 UR+13.5V error (*2)
				Flashes 3 times	Power Error 3 D3.3V error (*2)
				Flashes 5 times	Panel power supply error
Main PWB failure (Communication failure, etc.)	Flashes 3 times	—	Flashes 3 times	Flashes once	Initial communication error
				Flashes twice	Start-up confirmation communication error
				Flashes 3 times	Regular communication error
				Flashes 5 times	Other communication error
Others	Flashes 4 times	—	Flashes 4 times	Flashes once	Temperature error
				Flashes twice	Sync error
				Flashes 3 times	Notification from the main microprocessor (*3)
Upgrade executing	smoothness changes.	—	—	—	Version upgrading
Upgrade completion	a staircase pattern.	—	—	—	Version upgrade succeeded
Upgrade failed	—	Flashing (Continuous)	—	—	Version upgrade failed
ROM data failure	—	Flashing (Continuous)	—	—	Start-up after failing version upgrade (*4)

*2: It depends on the system. The power supply error suitable for the product is defined.

*3: For details, refer to ERROR STANDBY CAUSE on the adjustment process screen.

*4: If the boot section is abnormal, there is no flashing (flashing disabled).

MONITOR ERR STBY table

Outline: Communication/Power failure detected by the monitor microprocessor (IC2002) is stored on EEPROM, states can be confirmed in the adjustment process mode.

Location: Page 1/21 of the adjustment process mode: MONITOR ERR CAUSE "0" if there is no error. It is cleared to 0 on the page (2/21) of the adjustment process mode.

Display	Error description	
02	Start-up communication error 2	Initial communication from the main CPU is not received.
03	Start-up communication error 3	Only the initial communication is received.
04	Start-up communication error 4	Until panel information request reception
05	Start-up communication error 5	Until initialization completion reception
06	Start-up communication error 6	Until version notification transmission
07	Start-up communication error 7	Until start-up information notification transmission
08	Start-up communication error 8	Until start-up information response reception
09	Start-up communication error 9	Until time-out setting reception
0A	Communication error A	REQ time-out
0B	Communication error B	Restart time-out during the beginning of time acquisition start-up
0C	Communication error C	Ending sequence time-out
0D	Communication error D	Preset start-up time-out during completion
0E	Communication error E	Download start-up time-out
0F	Communication error F	Time acquisition time-out
11	Communication error H	Regular communication time-out
16	Panel-related error	Lamp failure
1A	Other error 2	Monitor temperature failure
1D	Power supply error 1	PS_ON (AC_DET) failure
1E	Power supply error 2	D_POW (DET_13V) failure
1F	Power supply error 3	D_POW (DET_D3V3) failure
21	Power supply error 5	Panel power failure
23	Other error 3	Error standby request from the main CPU

LED flashing timing chart at the time of the error



1) Low-speed blinking

Error type	Expression of Central Icon LED	Note: Pins are monitor microprocessor pins (IC2002).
Lamp failure low-speed blinking Flashes once	H: ON L: OFF	Refer to "Lamp failure details". LOW/High blinking by pressing the [MENU] key on the remote control.
Power failure low-speed blinking Flashes twice	H: ON L: OFF	Refer to "Power failure details". LOW/High blinking by pressing the [MENU] key on the remote control.
Communication failure with main CPU low-speed blinking Flashes 3 times	H: ON L: OFF	Refer to "Communication failure details". LOW/High blinking by pressing the [MENU] key on the remote control. Communication line failure or main CPU communication failure.
Others low-speed blinking Flashes 4 times	H: ON L: OFF	Refer to "Other failure details". LOW/High blinking by pressing the [MENU] key on the remote control.

2) Lamp failure details (Low-speed blinking: Flashes once + High-speed blinking)

Error type	Expression of Central Icon LED	Note: Pins are monitor microprocessor pins unless otherwise specified (IC2002).
Lamp failure Flashes once (High speed)	H: ON L: OFF	ERR_PNL (40pin): Abnormal H. Confirmed after 8 consecutive detections at 64ms intervals (detected only when the backlight is on). NOTE: After 5 detection counts, the lamp cannot be activated except in the monitoring process. To confirm the problem, "Lamp Error detection off-mode" is prepared. This mode compulsorily starts the set disregarding the count. Please refer to [ADJUSTMENT PROCEDURE - 7. Lamp Error detection]

3) Power failure details (Low-speed blinking: Flashes twice + High-speed blinking)

Error type	Expression of Central Icon LED	Note: Pins are monitor microprocessor pins unless otherwise specified (IC2002).
PS_ON AC_DET failure Flashes once (High speed)	H: ON L: OFF	AC_DET (72pin): Abnormal (L). If error is detected during start-up or operation, the power is turned on again by interrupt handling (instantaneous blackout processing).
SM_POW Main 13V failure Flashes twice (High speed)	H: ON L: OFF	DET_13V (38pin): Abnormal (L). Main 13V is not applied. If error is detected during start-up or operation, the power is turned on again by polling.
D_POW Digital 3.3V failure Flashes 3 times (High speed)	H: ON L: OFF	DET_D3V3 (36pin): abnormal (L). Digital 3.3V is not applied. If error is detected during start-up or operation, the power is turned on again by polling.
PANEL_POW Panel 12V failure Flashes 5 times (High speed)	H: ON L: OFF	DET_PNL12V (35pin): abnormal (L). DET_PNL12V is not applied. Detection starts after receiving command from Panel Power ON. The power is turned off by polling.

4) Communication failure details (Low-speed blinking: Flashes 3 times + High-speed blinking)

Error type	Expression of Central Icon LED	Note: Basically, debug print logs are analyzed or communication logs are analyzed by a bus monitor.
Initial communication reception failure Flashes once (High speed)	H: ON  L: OFF	Initial communication from the main CPU is not received. (Request for the monitor model No. is not received.) → Communication line failure or main CPU start-up failure
Start-up confirmation reception failure Flashes twice (High speed)	H: ON  L: OFF	Start-up reason confirmation from the main CPU cannot be received. (Startup communication until start-up reason notification command is not received.) → Main CPU start-up failure or monitor microprocessor reception failure
Regular communication failure Flashes 3 times (High speed)	H: ON  L: OFF	Regular communication that is performed at 1 second intervals in the normal operation is interrupted. → Main CPU operation failure or monitor microprocessor reception failure
Other communication failure Flashes 5 times (High speed)	H: ON  L: OFF	When a request (PM_REQ=H) is sent from the main microprocessor, the request command is not output from the main CPU, etc. → Main CPU operation failure or monitor microprocessor reception failure

5) Other failure details (Low-speed blinking: Flashes 4 times + High-speed blinking)

Error type	Expression of Central Icon LED	Note: Pins are monitor microprocessor pins unless otherwise specified (IC2002).
Monitor temperature failure Flashes once (High speed)	H: ON  L: OFF	If the panel temperature is 60°C or more for 15s or more in a row, CAUTION appears on the OSD (flashes in red in the lower right screen). If the panel temperature is 60°C or more for 25s or more in a row, error standby is activated. (MONITOR MAX TEMP on page 13/21 of the adjustment process: Change AD value for temperature failure): Thermistor
Main failure Flashes 3 times (High speed)	H: ON  L: OFF	Main microprocessor detection error (CPU temperature error, etc.) Details are displayed on page 1/21 of the adjustment process for the main microprocessor.

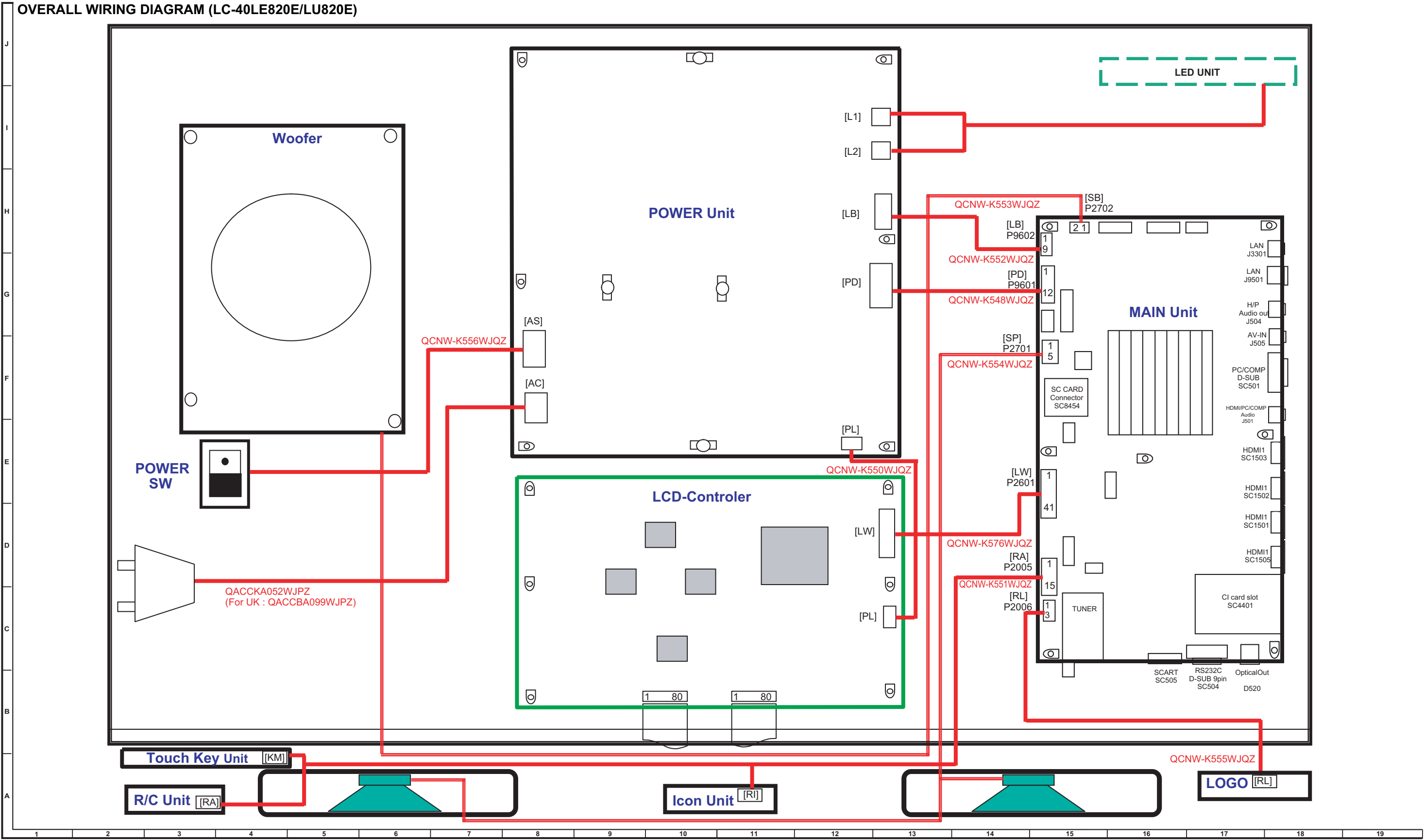
CHAPTER 8. MAJOR IC INFORMATIONS

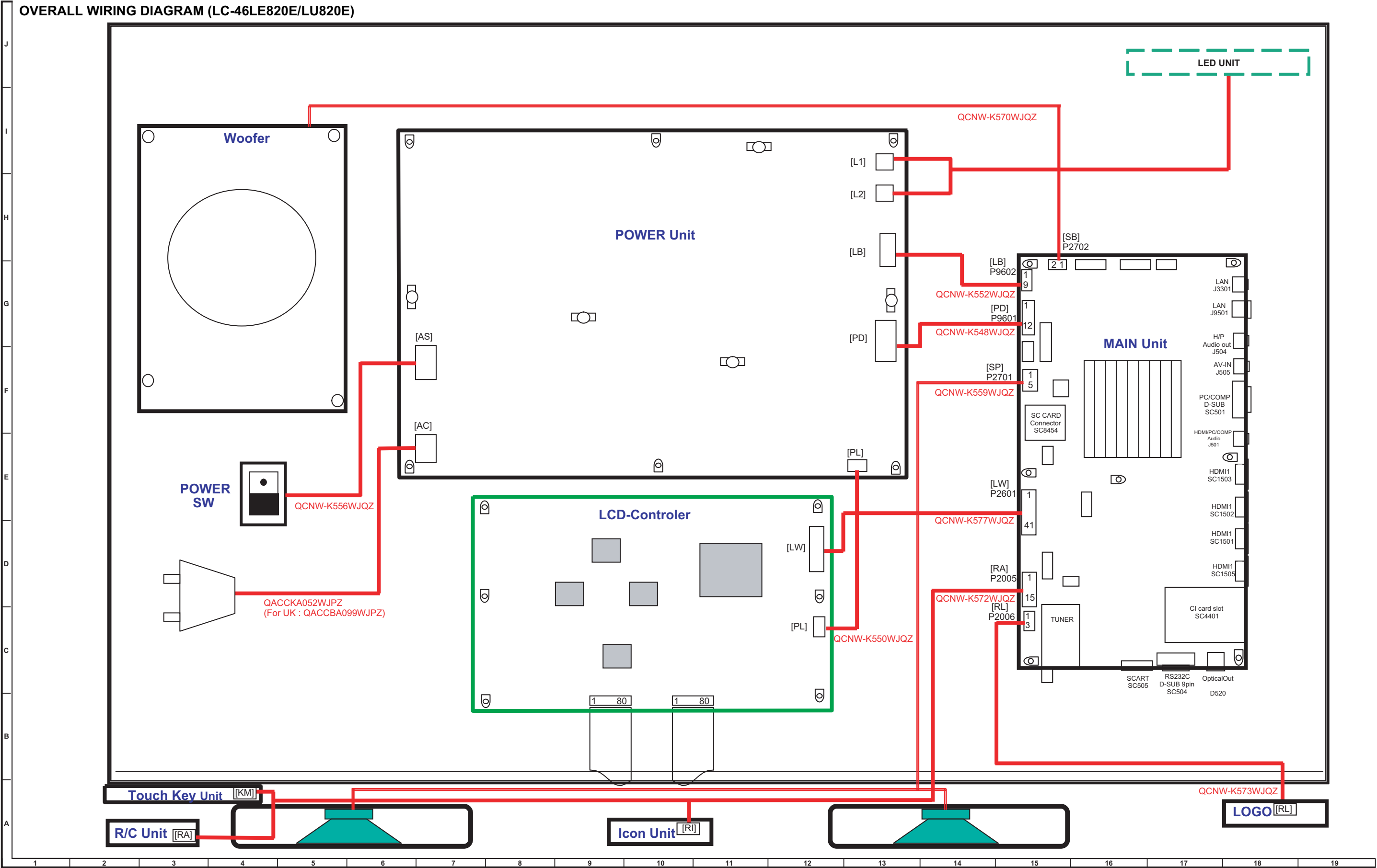
[1] MAJOR IC INFORMATIONS

REF NO	Name	Part Code	Description
[MAIN UNIT]			
IC8401	RH-iXC147WJQZQ	Flash	This IC is 512MB NAND flash memory. This IC stores the software data that processes the system of TV such as the graphic processing, the LCD controls, and backlights etc.
IC3302	RH-iXC951WJN1Q	Main CPU	This IC is Video Processor & MAIN CPU. In this IC, the decode processing and the video signal processing are done. Moreover, OSD is generated here and added to a picture signal.
IC2002	RH-iXC786WJQZQ for service (RH-iXC786WJNJQ)	UCOM	The monitor microprocessor is intended to communicate with the main CPU and to operate the system. It also controls power of the entire system.
IC3501/3502	RH-iXC754WJQZQ	DDR	This IC is 1GB DDR2 SDRAM. This IC operates as a memory of IC3302 (Video Processor). ***
IC501	VHi24LC21AT-1Y for service (RH-iXD108WJQZS)	1K bit E2PROM	This IC is a 1Kbit-2-wire (I2C bus type) serial EEPROM that can be programmed electrically. The EEPROM chip stores the EDID data of PC input. This data is controlled through I2C signals.
IC8455	VHiR24064AS-1Y	64K bit E2PROM	The BR24S64W is a 64Kbit-2-wire (I2C bus type) serial EEPROM that can be programmed electrically. This IC stores the menu data and the adjustment value data of adjustment process mode etc. The data is given out by commands from the main microprocessor.
IC506	VHiM3221EIP-1Y	RS232C-DRIVER	The MAX3221E is a single driver, single receiver RS-232 solution operating from a single Vcc supply. The RS-232 pins provide IEC G1000-4-2 ESD Protection. The device meets the requirements of TIA/EIA-232-F and provides the electrical interface between an asynchronous communication controller and the serial-port connector. The charge pump and four small external capacitors allow operation from a single 3V to 5.5V supply.
IC4405	VHiMT8295AE-1Q	CI controller	This is a control IC for PCMCIA cards. This controls information on IC cards inserted into the PCMCIA card slot (SC4401) or information on software version upgrade cards saved on flash memories to transfer the data to CPUs and memories.
IC2004	VHiR24002AS-1Y	2K bit E2PROM	This is a 2Kbit-2-wire (I2C bus type) serial EEPROM that can be programmed electrically. This IC stores the menu data and the adjustment value data of adjustment process mode etc. The data is given out by commands from the main microprocessor.
IC1504	VHiSii9287+-1Q	HDMI_Port_Processor	The SiI9287 HDMI port processor is the second generation of HDMI devices that support revision 1.3 of the HDMI specification. The main feature is as follows. 1) 4-input, 1-output HDMI port processor. 2) Integrated TMDS receiver and transmitter cores capable of receiving and transmitting at 2.25Gbps. 3) Supports video resolutions up to 1080p, 60Hz, 12bit or 720p/1080i, 120Hz, 12bit. 4) Receiver fully comply with DVI1.0, HDCP1.1 and HDMI1.3 specifications.
IC1106	VHiSTV0297E-1Q	COFDM	The STV0297E's demodulator is a complete QAM (quadrature amplitude modulation) demodulation and FEC (forward error correction) solution that performs IF to transport stream block processing of QAM signals. It is intended for the digital transmission of compressed television, sound, and data services over cable.
IC9501	VHiKSZ8041T-1Y	Ethernet Bus Interface	This IC is a single supply 10Base-T/100Base-TX Physical Layer Transceiver, which provides MII/RMII/SMII interfaces to transmit and receive data.
IC2701	VHiYSS951VZ-1Y	Sound processor	This IC is the Sound processing LSI with built-in two DSP (MDSP/SDSP) and FM (frequency modulation) oscillators. This IC process sound signal and sent it to AMP for Speaker and Woofer
IC2702/2703	VHiYDA164QZ-1Y	Audio-AMP	This IC is digital audio power amplifier with digital audio interface. The power-supply voltage is corresponded to A.8V~18V and the maximum output is 20Wx2ch.

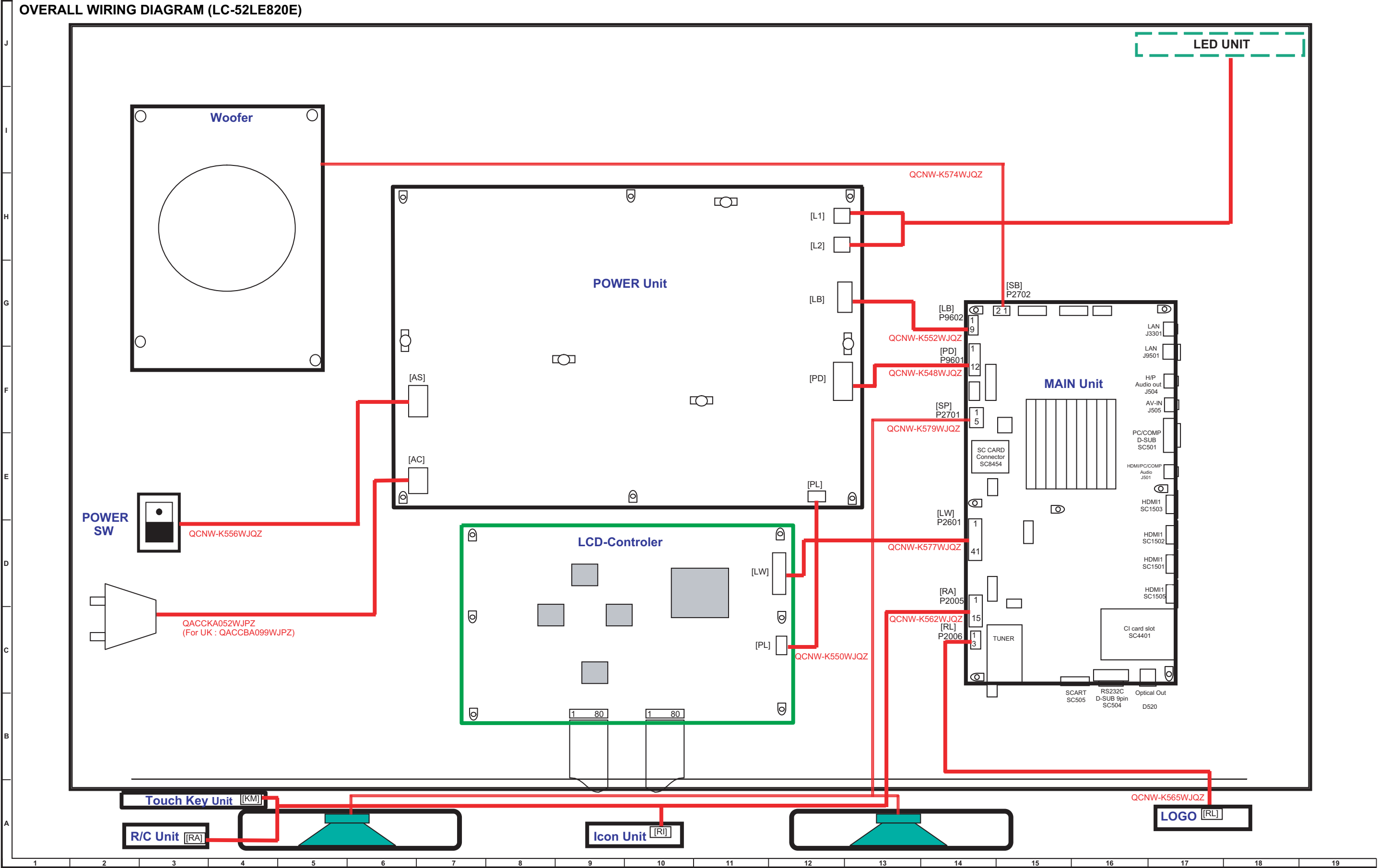
CHAPTER 9. OVERALL WIRING/BLOCK DIAGRAM

[1] OVERALL WIRING DIAGRAM (LC-40LE820E/LU820E)





[3] OVERALL WIRING DIAGRAM (LC-52LE820E)



The diagram illustrates the system architecture of a digital TV receiver, centered around the **IC3302 MT5391W(FHD) H.264 / CI+** Digital AV decode & Main CPU. Key components and their connections include:

- Power Management:** Includes a **POWER CIRCUIT** with a 12V DET 3.3V regulator, a **BU+3.3V** reset, and a **PD P9601 (12PIN)** connector for AC_DET, PS_ON, and PNL_POW.
- Audio Section:** Features a **IC2701 DSP YS951VZ** for audio processing, connected to **SPEAKER** and **WOOFER** outputs. It also handles **TS CIIN** and **TS CIOUT** signals.
- Video and Tuning:** The **IC1106 Demodulator DVB-C STV0297E** and **IC1102 IF DEMUX LV4053FT** handle incoming **TS CIIN** and **TS CIOUT** signals. The **IC504 TUNER OUT MM1506XN** provides **TUNER CVBS OUT** and **TUNER OUT L/R**.
- Control and Interface:** The **IC4401 CI Controller MT8295** manages **CI** (Conditional Access) signals. The **IC1504 HDMI-SW SII9287B** handles **HDMI** inputs (1-4) and outputs. The **IC1505 OPT OUT AHC1G08** manages **CEC_0** (Consumer Electronics Control) signals.
- Storage and Memory:** Includes **IC8451 NAND FLASH 512Gbit** for program storage and **IC3501 DDR2(1066M) 1Gbit** for system memory.
- Connectivity:** The **IC9501 Ethernet Bus Interface KS26041T** enables **Ethernet for LAN** connectivity. The **IC3301 USB** and **IC3302 SW LCX157FT** handle **USB** and **SW** (Switch) signals.
- Other Components:** Includes a **IC2002 M16C/64A IXC786VJ SUB MCU** for sub-processor control, **IC2008 Gate 7WH128FU** for gate driving, and various **IC2001** and **IC2002** components for timing and control.

The diagram shows a complex network of signals (I2C, SPI, UART, etc.) and power lines connecting these components, ensuring the system operates as a cohesive digital TV receiver.

SHARP PARTS GUIDE

No. S30F240LE820E



LCD COLOUR TELEVISION

LC-40LE820E
LC-46LE820E
LC-52LE820E
LC-40LU820E
LC-46LU820E

MODELS

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- | | |
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| [1] PRINTED WIRING BOARD ASSEMBLIES | [7] PACKING PARTS
(NOT REPLACEMENT ITEM)
(LC-40LE820E/LU820E) |
| [2] LCD PANEL MODULE | [8] PACKING PARTS
(NOT REPLACEMENT ITEM)
(LC-46LE820E/LU820E) |
| [3] CABINET PARTS
(LC-40LE820E/LU820E) | [9] PACKING PARTS
(NOT REPLACEMENT ITEM)
(LC-52LE820E) |
| [4] CABINET PARTS
(LC-46LE820E/LU820E) | [10] SERVICE JIGS
(USE FOR SERVICING) |
| [5] CABINET PARTS (LC-52LE820E) | |
| [6] SUPPLIED ACCESSORIES | |

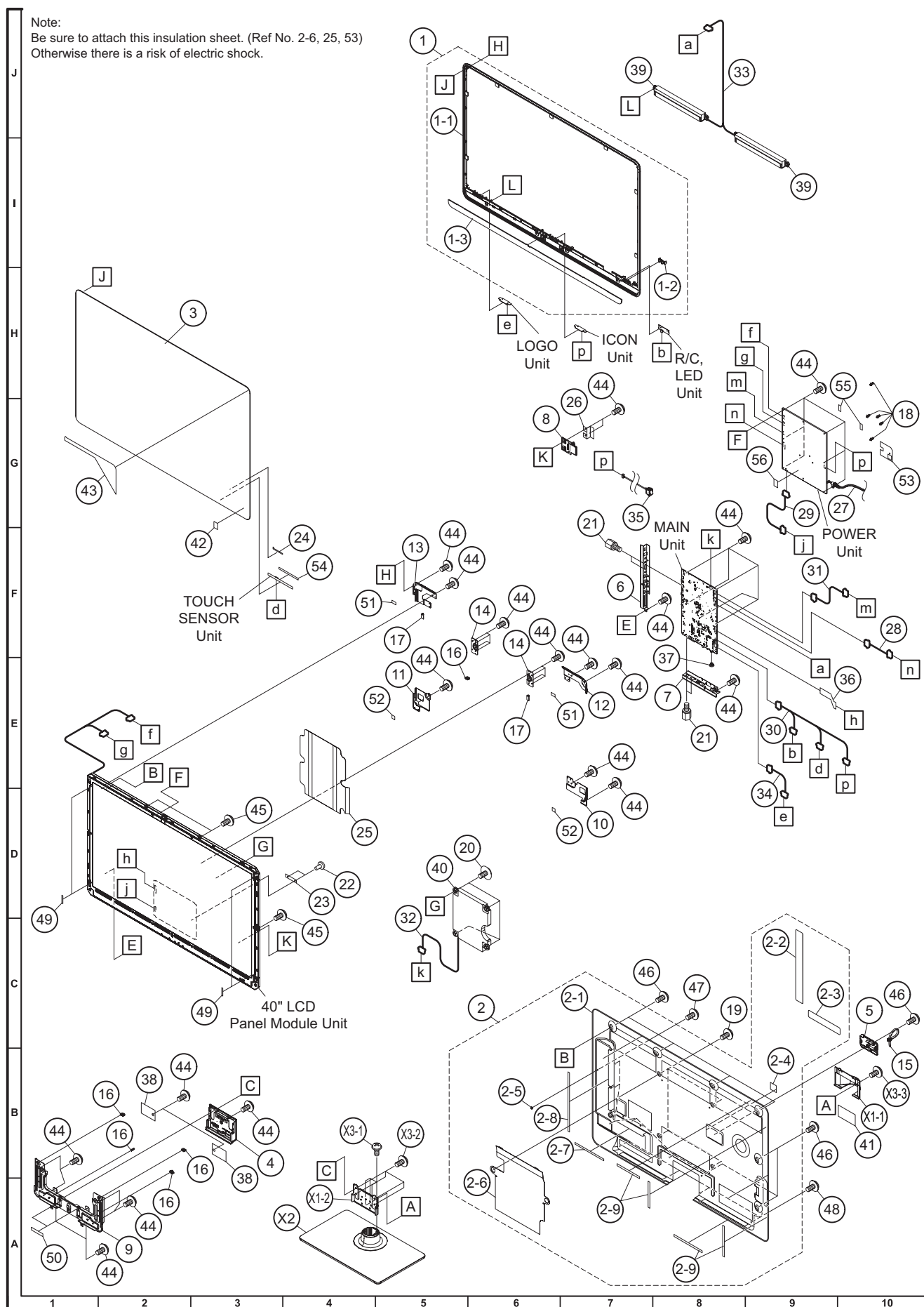
Parts marked with "△" are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART DELIVERY	DESCRIPTION
[1] PRINTED WIRING BOARD ASSEMBLIES					
N	DKEYDF455FM01		N	P	MAIN Unit
N	DUNTKF494FM02	AP	N	P	R/C, LED Unit
N	DUNTKF493FM03	AP	N	P	ICON Unit
N	DUNTKF493FM04	AQ	N	P	LOGO Unit
N	RUNTKA690WJQZ	BD	N	P	TOUCH SENSOR Unit
N	RUNTKA685WJQZ	BS	N	P	POWER Unit (LC-40LE820E/LU820E)
N	RUNTKA686WJQZ	BT	N	P	POWER Unit (LC-46LE820E/LU820E)
N	RUNTKA694WJQZ	BT	N	P	POWER Unit (LC-52LE820E)
N	RUNTK4512TPZC		N	P	LCD CONTROL Unit (LC-40LE820E/LU820E/52LE820E)
N	RUNTK4437TPZE	CM	N	P	LCD CONTROL Unit (LC-46LE820E/LU820E)
N	RUNTK4462TPZZ	BG	N	P	LED PWB Unit, x4 (LC-40LE820E/LU820E)
N	RUNTK4461TPZZ	BK	N	P	LED PWB Unit, x4 (LC-46LE820E/LU820E)
N	RUNTK4460TPZZ	BL	N	P	LED PWB Unit, x4 (LC-52LE820E)
[2] LCD PANEL MODULE					
N	R1LK400D3LWF0Y	DL	N	P	40" LCD Panel Module Unit (LC-40LE820E/LU820E)
N	R1LK460D3LWA0Y	DY	N	P	46" LCD Panel Module Unit (LC-46LE820E/LU820E)
N	R1LK520D3LWA0Y	EE	N	P	52" LCD Panel Module Unit (LC-52LE820E)

[3] CABINET PARTS (LC-40LE820E/LU820E)

Note:

Be sure to attach this insulation sheet. (Ref No. 2-6, 25, 53)
Otherwise there is a risk of electric shock.

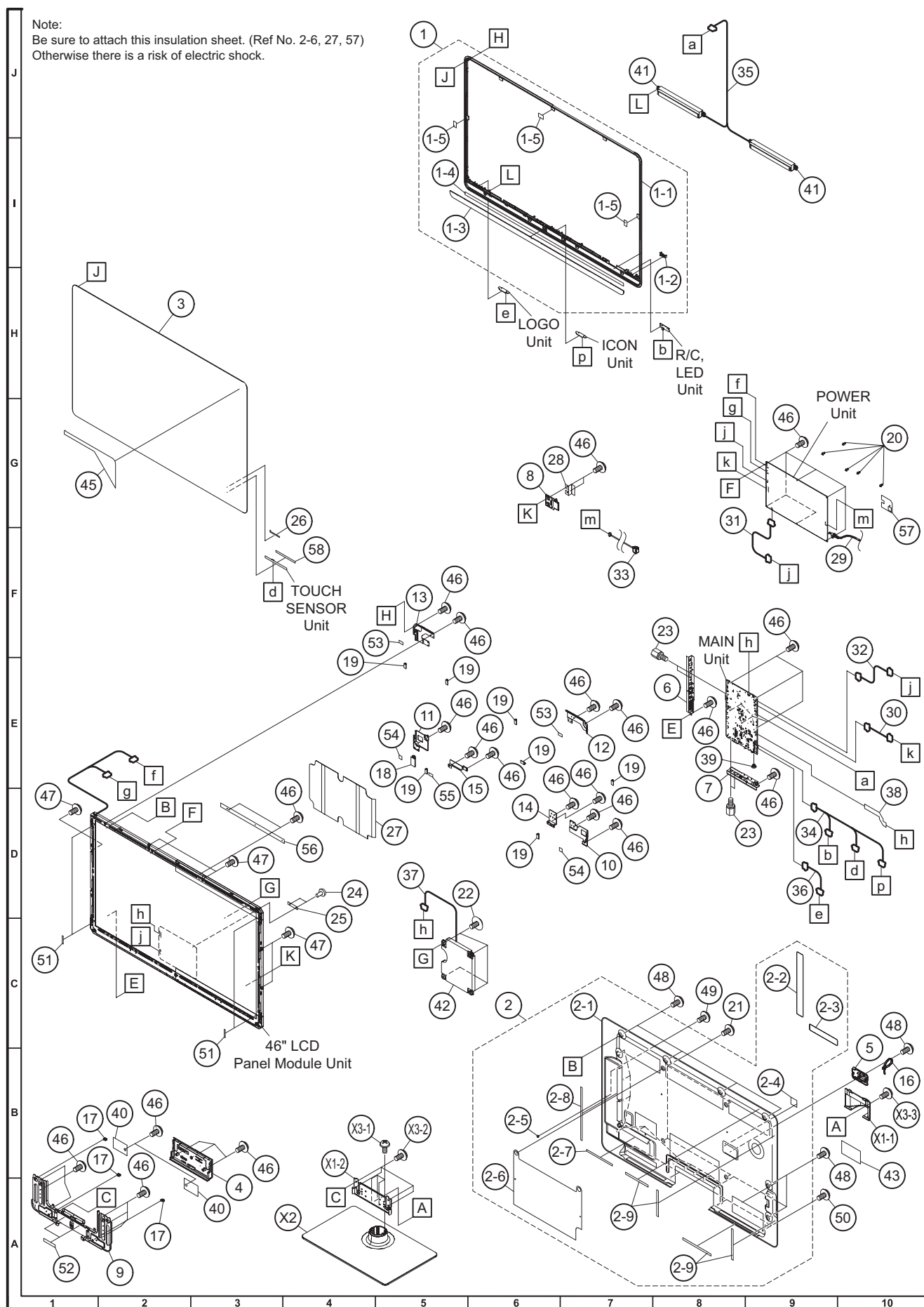


NO.	PARTS CODE	PRICE RANK	NEW MARK	PART DELIVERY	DESCRIPTION
[3] CABINET PARTS (LC-40LE820E/LU820E)					
1	CCABAC522WJ11	BR	N	P	Front Cabinet Ass'y (LC-40LE820E)
1	CCABAC522WJ12		N	P	Front Cabinet Ass'y (LC-40LU820E)
1-1	Not available	-	N	-	Front Cabinet
1-2	Not available	-	N	-	R/C Decoration Cover
1-3	Not available	-	N	-	Front Decoration
2	CCABBB698WJ11	BQ	N	P	Rear Cabinet Ass'y
2-1	Not available	-	N	-	Rear Cabinet
2-2	HiNDPD710WJSA	AF	N	P	Terminal Label (Side)
2-3	HiNDPD711WJSA	AD	N	P	Terminal Label (Bottom)
2-4	PSPAHC152WJ1Z	AA	N	P	Himelon
2-5	PSPAHC461WJZZ	AE	N	P	Spacer
2-6	PZETKA549WJKZ		N	P	Insulation Sheet
2-7	PSPAHC159WJZZ		N	P	Himelon
2-8	PSPAHC160WJZZ		N	P	Himelon
2-9	PSPAHC194WJZZ		N	P	Himelon, x4
3	CPNLHA019WE11		N	P	Glass Front Panel Ass'y
4	GCOVAD696WJ1A	AG	N	P	Stand Cover
5	GCOVAD699WJ1A	AD	N	P	AC Cord Cover
6	GCOVAD706WJSA	AK	N	P	Terminal Angle (Side)
7	GCOVAD707WJSA	AH	N	P	Terminal Angle (Bottom)
8	GCOVAD709WJ1A	AF	N	P	ECO Switch Cover
9	LANGKC719WJM1	BB	N	P	Stand Angle
10	LANGKC743WJFW	AF	N	P	LCD Angle (Bottom-L)
11	LANGKC744WJFW	AG	N	P	LCD Angle (Bottom-R)
12	LANGKC745WJFW	AF	N	P	LCD Angle (Top-L)
13	LANGKC746WJFW	AF	N	P	LCD Angle (Top-R)
14	LANGKC775WJM1	AH	N	P	VESA Angle, x2
15	LHLDKA011WJKZ	AC	N	P	AC Cord Band
16	LHLDWA143WJKZ	AC		J	Wire Holder, x5
17	LHLDWA294WJUJ	AC		J	Wire Holder, x2
18	LHLDZA587WJKZ	AC		J	Spacer, x5
19	LX-BZA170WJF9	AB	N	P	Screw (for VESA/Rear Cabinet Ass'y), x4
20	LX-BZA364WJF7	AA	N	P	Screw (for Woofer), x4
21	NSFTZA362WJFW		N	P	Shaft (for PWB/Angle), x4
22	PCLICA004WJKZ	AC		J	Nylon Rivet, x2
23	PMLT-A632WJZZ	AD	N	P	Gasket
24	PSLDPA113WJZZ		N	P	Shield Tape C
25	PZETKA548WJKZ		N	P	Insulation Sheet (Power)
26	PZETKA556WJKZ	AE	N	P	Insulation Sheet (ECO)
27	QACBA099WJPZ	AR	N	P	AC Cord (for U.K.)
27	QACCKA052WJPZ	AN	N	P	AC Cord (except for U.K.)
28	QCNW-K548WJQZ	AF	N	P	Connecting Cord (PD)
29	QCNW-K550WJQZ	AE	N	P	Connecting Cord (PL)
30	QCNW-K551WJQZ	AT	N	P	Connecting Cord (RA)
31	QCNW-K552WJQZ	AF	N	P	Connecting Cord (LB)
32	QCNW-K553WJQZ	AH	N	P	Connecting Cord (SB)
33	QCNW-K554WJQZ	AK	N	P	Connecting Cord (SP)
34	QCNW-K555WJQZ	AE	N	P	Connecting Cord (RL)
35	QCNW-K556WJQZ	AV	N	P	Connecting Cord (AS)
36	QCNW-K576WJQZ	AT	N	P	Connecting Cord (LW)
37	QEARZ0057CEFW	AB		J	Earth Spring
38	QEARZA186WJZZ	AF	N	P	Conductive Tape, x2
39	RSP-ZA456WJZZ	AX	N	P	Speaker (L/R), x2
40	RSP-ZA458WJZZ	BA	N	P	Speaker (Woofer)
41	TLABNC117WJZZ	AA	N	P	Model Label
42	TLABZC354WJZZ	AB	N	P	ECO Label
43	TLABZC554WJZZ		N	P	Pop Label
44	XBPS730P06WS0	AA		J	Screw (for PWB/Angle/LCD/Cabinet), x39
45	XBPS730P10WS0	AA		J	Screw (for Panel Angle), x3
46	XBPS830P06WS0	AA		J	Screw (for Rear Cabinet Ass'y), x13
47	XBPS830P14WS0	AA	N	P	Screw (for Rear Cabinet Ass'y)
48	XEBS840P10000	AF	N	J	Screw (for Speaker), x4
49	PSPAGA888WJZZ		N	P	Spacer, x4
50	PSPAHC492WJKZ		N	P	Spacer, x2
51	PSPAGA889WJKZ		N	P	Spacer, x2
52	PSPAGA891WJKZ		N	P	Spacer, x2
53	PZETKA563WJKZ		N	P	Insulation Sheet (AC)
54	PSPAKA469WJKZ		N	P	Spacer
55	PCUSGA142WJKZ		N	P	Rubber Bush, x2
56	PSPAHC494WJKZ		N	P	Cooling Sheet

[4] CABINET PARTS (LC-46LE820E/LU820E)

Note:

Be sure to attach this insulation sheet. (Ref No. 2-6, 27, 57)
Otherwise there is a risk of electric shock.

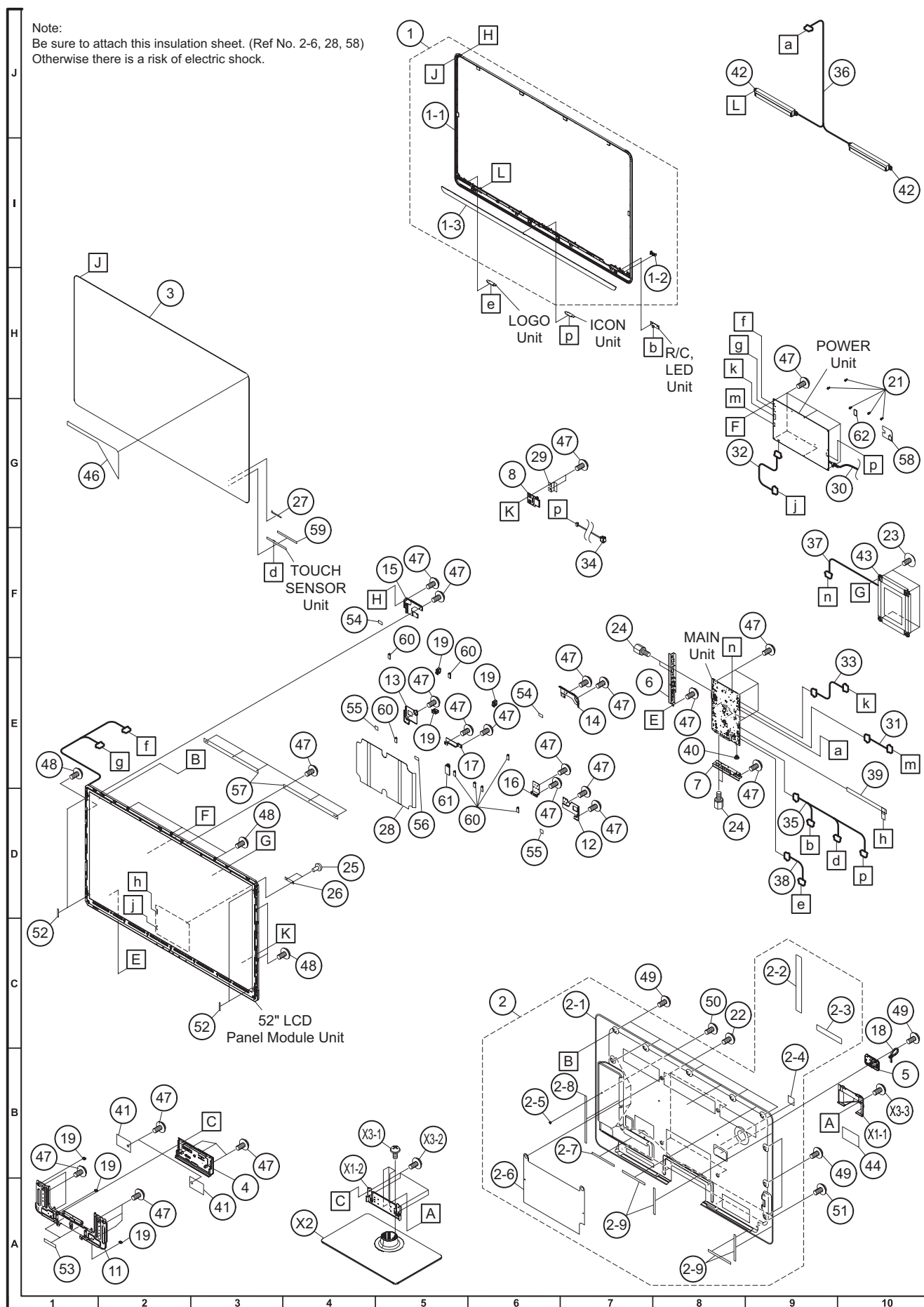


NO.	PARTS CODE	PRICE RANK	NEW MARK	PART DELIVERY	DESCRIPTION
[4] CABINET PARTS (LC-46LE820E/LU820E)					
1	CCABAC523WJ11	BS	N	P	Front Cabinet Ass'y (LC-46LE820E)
1	CCABAC523WJ12		N	P	Front Cabinet Ass'y (LC-46LU820E)
1-1	Not available	-	N	-	Front Cabinet
1-2	Not available	-	N	-	R/C Decoration Cover
1-3	Not available	-	N	-	Front Decoration
1-4	PSPAGA907WJZZ		N	P	Spacer
1-5	PSPAHC495WJZZ		N	P	Double Side Tape, x3
2	CCABBB699WJ11		N	P	Rear Cabinet Ass'y (for U.K.)
2	CCABBB699WE11		N	P	Rear Cabinet Ass'y (except for U.K.)
2-1	Not available	-	N	-	Rear Cabinet
2-2	HiNDPD710WJSA	AF	N	P	Terminal Label (Side)
2-3	HiNDPD711WJSA	AD	N	P	Terminal Label (Bottom)
2-4	PSPAHC152WJ1Z	AA	N	P	Himelon (except for U.K.)
2-5	PSPAHC461WJZZ	AE	N	P	Spacer
2-6	PZETKA542WJKZ	BA	N	P	Insulation Sheet
2-7	PSPAHC159WJZZ		N	P	Himelon
2-8	PSPAHC160WJZZ		N	P	Himelon
2-9	PSPAHC194WJZZ		N	P	Himelon, x4
3	CPNLHA020WJ11		N	P	Glass Front Panel Ass'y
4	GCOVAD697WJ1A	AK	N	P	Stand Cover
5	GCOVAD699WJ1A	AD	N	P	AC Cord Cover
6	GCOVAD706WJSA	AK	N	P	Terminal Angle (Side)
7	GCOVAD707WJSA	AH	N	P	Terminal Angle (Bottom)
8	GCOVAD709WJ1A	AF	N	P	ECO Switch Cover
9	LANGKC720WJFW	AV	N	P	Stand Angle
10	LANGKC743WJFW	AF	N	P	LCD Angle (Bottom-L)
11	LANGKC744WJFW	AG	N	P	LCD Angle (Bottom-R)
12	LANGKC745WJFW	AF	N	P	LCD Angle (Top-L)
13	LANGKC746WJFW	AF	N	P	LCD Angle (Top-R)
14	LANGKC747WJFW	AE	N	P	LCD Angle (B-C-A)
15	LANGKC811WJFW	AD	N	P	LCD Angle (B-C-B)
16	LHLDKA011WJKZ	AC	N	P	AC Cord Band
17	LHLDWA143WJKZ	AC		J	Wire Holder, x3
18	LHLDWA176WJUJ	AC		J	Wire Holder
19	LHLDWA294WJUJ	AC		J	Wire Holder, x7
20	LHLDZA587WJKZ	AC		J	Spacer, x5
21	LX-BZA170WJF9	AB	N	P	Screw (for VESA/Rear Cabinet Ass'y), x4
22	LX-BZA364WJF7	AA	N	P	Screw (for Woofer), x4
23	NSFTZA362WJFW		N	P	Shaft (for PWB/Angle), x4
24	PCLICA004WJKZ	AC		J	Nylon Rivet, x2
25	PMLT-A632WJZZ	AD	N	P	Gasket
26	PSLDPA113WJZZ		N	P	Shield Tape C
27	PZETKA541WJKZ	AW	N	P	Insulation Sheet (Power)
28	PZETKA556WJKZ	AE	N	P	Insulation Sheet (ECO)
29	QACCCA099WJPZ	AR	N	P	AC Cord (for U.K.)
29	QACCKA052WJPZ	AN	N	P	AC Cord (except for U.K.)
30	QCNW-K548WJQZ	AF	N	P	Connecting Cord (PD)
31	QCNW-K550WJQZ	AE	N	P	Connecting Cord (PL)
32	QCNW-K552WJQZ	AF	N	P	Connecting Cord (LB)
33	QCNW-K556WJQZ	AV	N	P	Connecting Cord (AS)
34	QCNW-K572WJQZ		N	P	Connecting Cord (RA)
35	QCNW-K559WJQZ	AK	N	P	Connecting Cord (SP)
36	QCNW-K573WJQZ		N	P	Connecting Cord (RL)
37	QCNW-K570WJQZ	AG	N	P	Connecting Cord (SB)
38	QCNW-K561WJQZ		N	P	Connecting Cord (LW)
39	QEARZ0057CEFW	AB		J	Earth Spring
40	QEARZA186WJZZ	AF	N	P	Conductive Tape, x2
41	RSP-ZA456WJZZ	AX	N	P	Speaker (L/R), x2
42	RSP-ZA458WJZZ	BA	N	P	Speaker (Woofer)
43	TLABNC117WJZZ	AA	N	P	Model Label
45	TLABZC520WJZZ		N	P	Pop Label
46	XBPS730P06WS0	AA		J	Screw (for PWB/Angle/LCD/Cabinet), x39
47	XBPS730P10WS0	AA		J	Screw (for Panel Angle), x5
48	XBPS830P06WS0	AA		J	Screw (for Rear Cabinet Ass'y), x17
49	XBPS830P14WS0	AA	N	P	Screw (for Rear Cabinet Ass'y)
50	XEBS840P10000	AF	N	J	Screw (for Speaker/Rear Cabinet Ass'y), x4
51	PSPAGA888WJZZ		N	P	Spacer, x4
52	PSPAHC492WJKZ		N	P	Himelon, x2
53	PSPAGA889WJKZ		N	P	Spacer, x2
54	PSPAGA891WJKZ		N	P	Spacer, x2
55	PSPAGA892WJKZ		N	P	Spacer
56	LANGFA776WJFW		N	P	BL Chassis Support Angle
57	PZETKA563WJKZ		N	P	Insulation Sheet (AC)
58	PSPAKA469WJKZ		N	P	Spacer

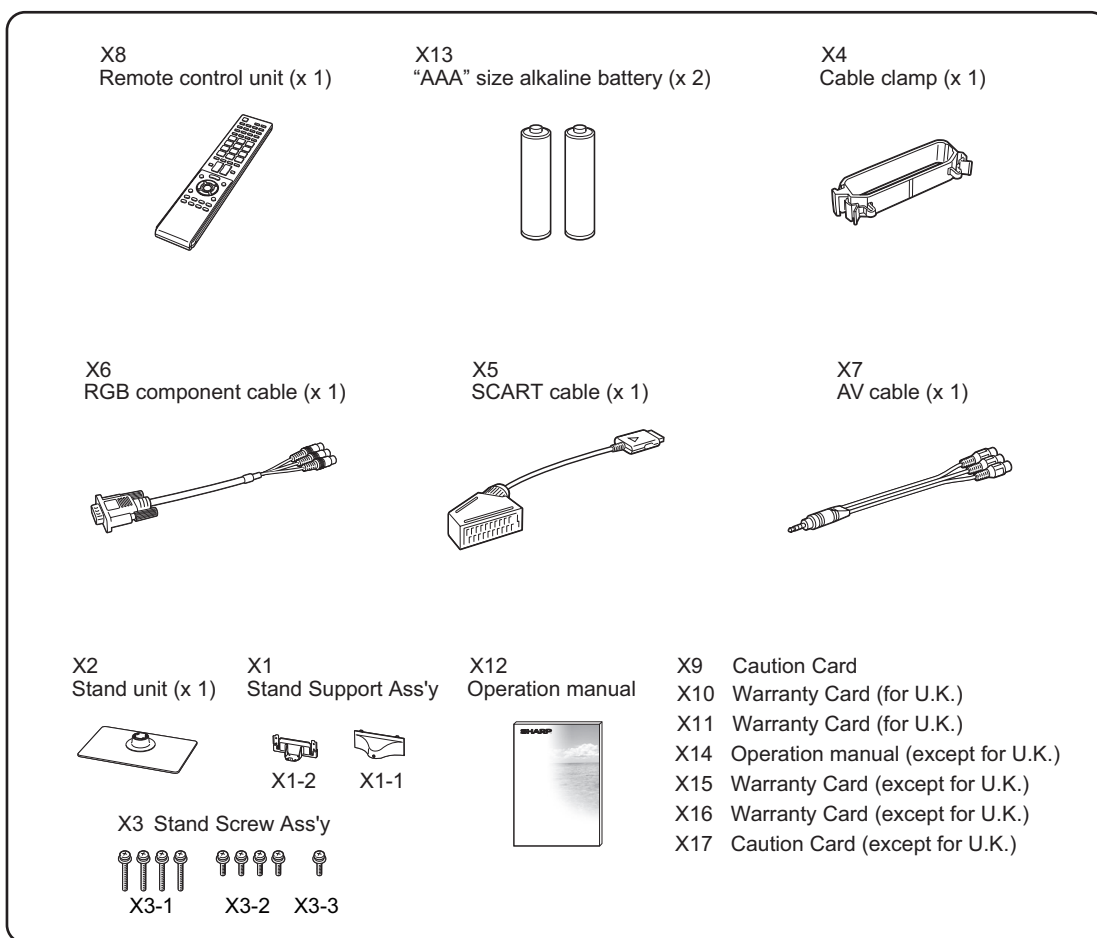
[5] CABINET PARTS (LC-52LE820E)

Note:

Be sure to attach this insulation sheet. (Ref No. 2-6, 28, 58)
Otherwise there is a risk of electric shock.



NO.	PARTS CODE	PRICE RANK	NEW MARK	PART DELIVERY	DESCRIPTION
[5] CABINET PARTS (LC-52LE820E)					
1	CCABAC524WJ31	CH	N	P	Front Cabinet Ass'y
1-1	Not available	-	N	-	Front Cabinet
1-2	Not available	-	N	-	R/C Decoration Cover
1-3	Not available	-	N	-	Front Decoration
2	CCABBB700WE11		N	P	Rear Cabinet Ass'y
2-1	Not available	-	N	-	Rear Cabinet
2-2	HiNDPD710WJSA	AF	N	P	Terminal Label (Side)
2-3	HiNDPD711WJSA	AD	N	P	Terminal Label (Bottom)
2-4	PSPAHC152WJ1Z	AA	N	P	Himelon
2-5	PSPA4C461WJZZ	AE	N	P	Spacer
2-6	PZETKA542WJKZ	BA	N	P	Insulation Sheet
2-7	PSPAHC159WJZZ		N	P	Himelon
2-8	PSPAHC160WJZZ		N	P	Himelon
2-9	PSPAHC194WJZZ		N	P	Himelon, x4
3	CPNLHA021WJ11		N	P	Glass Front Panel Ass'y
4	GCOVAD697WJ1A	AK	N	P	Stand Cover
5	GCOVAD699WJ1A	AD	N	P	AC Cord Cover
6	GCOVAD706WJSA	AK	N	P	Terminal Angle (Side)
7	GCOVAD707WJSA	AH	N	P	Terminal Angle (Bottom)
8	GCOVAD709WJ1A	AF	N	P	ECO Switch Cover
11	LANGKC720WJFW	AV	N	P	Stand Angle
12	LANGKC743WJFW	AF	N	P	LCD Angle (Bottom-L)
13	LANGKC744WJFW	AG	N	P	LCD Angle (Bottom-R)
14	LANGKC745WJFW	AF	N	P	LCD Angle (Top-L)
15	LANGKC746WJFW	AF	N	P	LCD Angle (Top-R)
16	LANGKC747WJFW	AE	N	P	LCD Angle (B-C-A)
17	LANGKC811WJFW	AD	N	P	LCD Angle (B-C-B)
18	LHLDKA011WJKZ	AC	N	P	AC Cord Band
19	LHLDWA143WJKZ	AC		J	Wire Holder, x6
21	LHLDZA587WJKZ	AC		J	Spacer, x5
22	LX-BZA170WJF9	AB	N	P	Screw (for VESA/Rear Cabinet Ass'y), x4
23	LX-BZA364WJF7	AA	N	P	Screw (for Woofer), x4
24	NSFTZA362WJFW		N	P	Shaft (for PWB/Angle), x4
25	PCLICA004WJKZ	AC		J	Nylon Rivet, x2
26	PMLT-A632WJZZ	AD	N	P	Gasket
27	PSLDPA113WJZZ		N	P	Shield Tape C
28	PZETKA541WJKZ	AW	N	P	Insulation Sheet (Power)
29	PZETKA556WJKZ	AE	N	P	Insulation Sheet (ECO)
30	QACCB099WJPZ	AR	N	P	AC Cord (for U.K.)
30	QACCKA052WJPZ	AN	N	P	AC Cord (except for U.K.)
31	QCNW-K548WJQZ	AF	N	P	Connecting Cord (PD)
32	QCNW-K550WJQZ	AE	N	P	Connecting Cord (PL)
33	QCNW-K552WJQZ	AF	N	P	Connecting Cord (LB)
34	QCNW-K556WJQZ	AV	N	P	Connecting Cord (AS)
35	QCNW-K562WJQZ	AV	N	P	Connecting Cord (RA)
36	QCNW-K579WJQZ		N	P	Connecting Cord (SP)
37	QCNW-K574WJQZ		N	P	Connecting Cord (SB)
38	QCNW-K565WJQZ	AE	N	P	Connecting Cord (RL)
39	QCNW-K577WJQZ	AT	N	P	Connecting Cord (LW)
40	QEARZ0057CEFW	AB		J	Earth Spring
41	QEARZA186WJZZ	AF	N	P	Conductive Tape, x2
42	RSP-ZA456WJZZ	AX	N	P	Speaker (L/R), x2
43	RSP-ZA457WJZZ	BA	N	P	Speaker (Woofer)
44	TLABNC117WJZZ	AA	N	P	Model Label
46	TLABZC554WJZZ		N	P	Pop Label
47	XBPS730P06WS0	AA		J	Screw (for PWB/Angle/LCD Angle/Cabinet), x43
48	XBPS730P10WS0	AA		J	Screw (for LCD/Front Cabinet Ass'y), x6
49	XBPS830P06WS0	AA		J	Screw (for Raer Cabinet), x19
50	XBPS830P14WS0	AA	N	P	Screw (for Rear Cabinet)
51	XEBS840P10000	AF	N	J	Screw (for Speaker/Rear Cabinet Ass'y), x4
52	PSPAGA888WJZZ		N	P	Spacer, x4
53	PSPA4C492WJKZ		N	P	Himelon, x2
54	PSPAGA889WJKZ		N	P	Spacer, x2
55	PSPAGA891WJKZ		N	P	Spacer, x2
56	PSPAGA892WJKZ		N	P	Spacer
57	LANGFA776WJFW		N	P	BL Chassis Support Angle, x2
58	PZETKA563WJKZ		N	P	Insulation Sheet (AC)
59	PSPAKA469WJKZ		N	P	Spacer
60	LHLDWA294WJUJ	AC		J	Wire Holder, x8
61	LHLDWA176WJUJ	AC		J	Wire Holder
62	PCUSGA142WJKZ		N	P	Rubber Bush

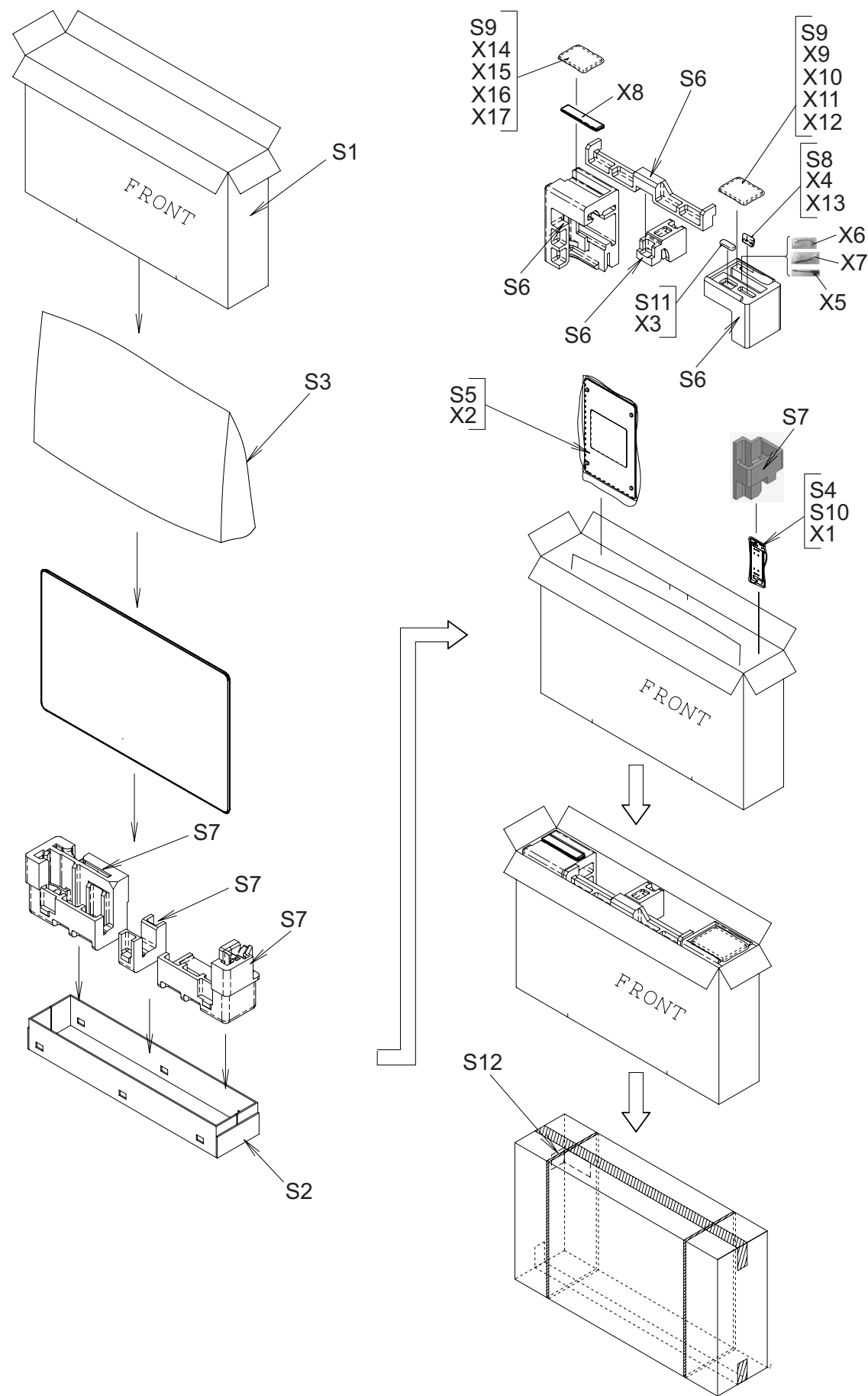
[6] SUPPLIED ACCESSORIES

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART DELIVERY	DESCRIPTION
[6] SUPPLIED ACCESSORIES					
X1	CANGKC707WJ01	AY	N	P	Stand Support Ass'y (LC-40LE820E/LU820E)
X1	CANGKC708WJ01	AY	N	P	Stand Support Ass'y (LC-46LE820E/LU820E/52LE820E)
X1-1	Not available	-	N	-	Support Cover
X1-2	CANGKC707WJ03	-	N	P	Support Angle Ass'y (LC-40LE820E/LU820E)
X1-2	CANGKC708WJ03	-	N	P	Support Angle Ass'y (LC-46LE820E/LU820E/52LE820E)
X2	CDAi-A653WJ01	BH	N	P	Stand Unit (LC-40LE820E)
X2	CDAi-A653WJ04	-	N	P	Stand Unit (LC-40LU820E)
X2	CDAi-A654WJ02	-	N	P	Stand Unit (LC-46LE820E)
X2	CDAi-A654WJ04	-	N	P	Stand Unit (LC-46LU820E)
X2	CDAi-A654WJ02	BM	N	P	Stand Unit (LC-52LE820E)
X3	CX-BZA363WJ01	AF	N	P	Stand Screw Ass'y
X3-1	Not available	-	N	-	Screw, x4
X3-2	Not available	-	N	-	Screw, x4
X3-3	XBBS840P08000	AB	-	J	Screw
X4	LHLDWA298WJKA	AD	N	J	Cable Clamp
X5	QCNWGA158WJPZ	AT	N	P	SCART Cable
X6	QCNWGA159WJPZ	AM	N	P	RGB Component Cable
X7	QCNWGA160WJPZ	AM	N	P	AV Cable
X8	RRMCGA841WJSA	AX	N	P	Remote Control Unit
X9	TCAUZA408WJZZ	AB	N	P	Caution Card
X10	TGAN-A801WJZZ	AC	N	P	Warranty Card (for U.K.)
X11	TGAN-A802WJZZ	AB	N	P	Warranty Card (for U.K.)
X12	TINS-E540WJZZ	AT	N	P	Operation Manual (LC-40/46/52LE820E)
X12	TINS-E540WJN1	-	N	P	Operation Manual (LC-40/46LU820E)
X13	UBATAA011WJZZ	AF	-	J	"AAA" size alkaline battery, x2
X14	TINS-E541WJZZ	-	N	P	Operation Manual (except for U.K.) (LC-40/46/52LE820E)
X14	TINS-E541WJN1	-	N	P	Operation Manual (except for U.K.) (LC-40/46LU820E)
X15	TGAN-B078WJZZ	-	N	P	Warranty Card (except for U.K.)
X16	TGAN-B079WJZZ	-	N	P	Warranty Card (except for U.K.)
X17	TCAUSA034WJZZ	-	N	P	Caution Card (except for U.K.)



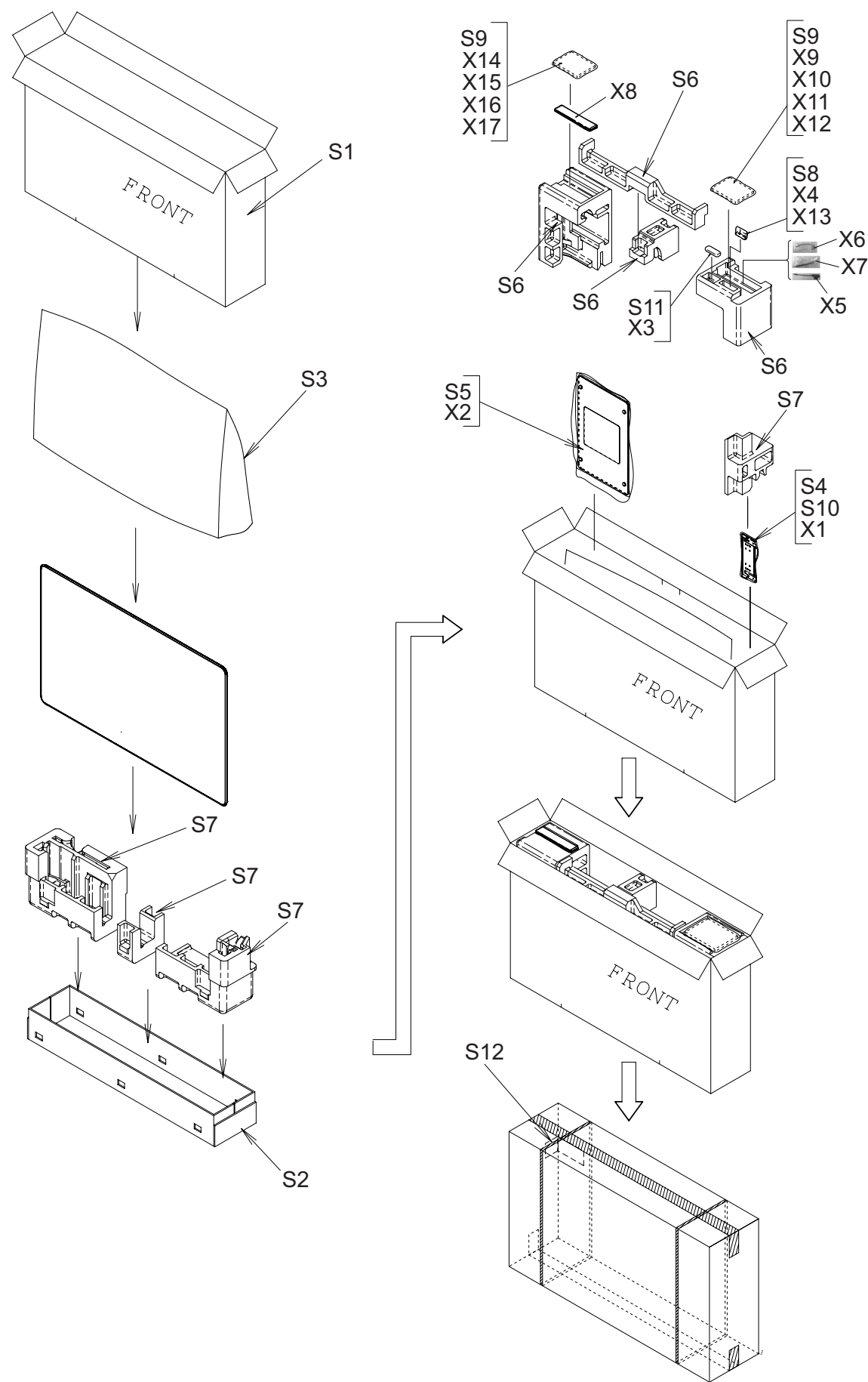
NO.	PARTS CODE	PRICE RANK	NEW MARK	PART DELIVERY	DESCRIPTION
[7] PACKING PARTS (NOT REPLACEMENT ITEM) (LC-40LE820E/LU820E)					
S1	SPAKCF491WJZZ	-	N	-	Packing Case (LC-40LE820E)
S1	SPAKCF750WJZZ	-	N	-	Packing Case (LC-40LU820E)
S2	SPAKPB475WJZZ	-	N	-	Wrapping Paper
S3	SPAKPB526WJZZ	-	N	-	Wrapping Paper
S4	SPAKPB528WJZZ	-	N	-	Wrapping Paper (LC-40LE820E)
S4	SPAKPB561WJZZ	-	N	-	Wrapping Paper (LC-40LU820E)
S5	SPAKXC920WJZZ	-	N	-	Packing Add. (Top)
S6	SPAKXC925WJZZ	-	N	-	Packing Add. (Bottom)
S7	SSAKAA009WJZZ	-	N	-	Polyethylene Bag
S8	SSAKAA111WJZZ	-	N	-	Polyethylene Bag, x2
S9	SSAKKA006WJZZ	-	N	-	Polyethylene Bag
S10	SSAKKA008WJZZ	-	N	-	Polyethylene Bag
S11	TLABM5584BMZZ	-	N	-	Case No Label

[8] PACKING PARTS (NOT REPLACEMENT ITEM) (LC-46LE820E/LU820E)



NO.	PARTS CODE	PRICE RANK	NEW MARK	PART DELIVERY	DESCRIPTION
[8] PACKING PARTS (NOT REPLACEMENT ITEM) (LC-46LE820E/LU820E)					
S1	SPAKCF492WJZZ	-	N	-	Packing Case (Top) (LC-46LE820E)
S1	SPAKCF695WJZZ	-	N	-	Packing Case (Top) (LC-46LU820E)
S2	SPAKCF496WJZZ	-	N	-	Packing Case (Bottom)
S3	SPAKPB477WJZZ	-	N	-	Wrapping Paper
S4	SPAKPB527WJZZ	-	N	-	Wrapping Paper
S5	SPAKPB529WJZZ	-	N	-	Wrapping Paper (LC-46LE820E)
S5	SPAKPB562WJZZ	-	N	-	Wrapping Paper (LC-46LU820E)
S6	SPAKXC921WJZZ	-	N	-	Packing Add. (Top)
S7	SPAKXC926WJZZ	-	N	-	Packing Add. (Bottom)
S8	SSAKAA009WJZZ	-	N	-	Polyethylene Bag
S9	SSAKAA111WJZZ	-	N	-	Polyethylene Bag, x2
S10	SSAKKA007WJZZ	-	N	-	Polyethylene Bag
S11	SSAKKA008WJZZ	-	N	-	Polyethylene Bag
S12	T LABM5584BMZZ	-	N	-	Case No Label

[9] PACKING PARTS (NOT REPLACEMENT ITEM) (LC-52LE820E)



NO.	PARTS CODE	PRICE RANK	NEW MARK	PART DELIVERY	DESCRIPTION
[9] PACKING PARTS (NOT REPLACEMENT ITEM) (LC-52LE820E)					
S1	SPAKCF493WJZZ	-	N	-	Packing Case (Top)
S2	SPAKCF497WJZZ	-	N	-	Packing Case (Bottom)
S3	SPAKPB478WJZZ	-	N	-	Wrapping Paper
S4	SPAKPB527WJZZ	-	N	-	Wrapping Paper
S5	SPAKPB529WJZZ	-	N	-	Wrapping Paper
S6	SPAKXC922WJZZ	-	N	-	Packing Add. (Top)
S7	SPAKXC927WJZZ	-	N	-	Packing Add. (Bottom)
S8	SSAKAA009WJZZ	-	N	-	Polyethylene Bag
S9	SSAKAA111WJZZ	-	N	-	Polyethylene Bag, x2
S10	SSAKAA007WJZZ	-	N	-	Polyethylene Bag
S11	SSAKAA008WJZZ	-	N	-	Polyethylene Bag
S12	TLABM5584BMZZ	-	N	-	Case No Label
[10] SERVICE JIGS (USE FOR SERVICING)					
N	QCNW-G616WJQZ	BK		J	Main Unit to LCD Control Unit (LW)
N	QCNW-G625WJQZ	AP		J	Main Unit to Power Unit (PL)
N	QCNW-H184WJQZ	AX		J	Main Unit to Power Unit (PD)
N	QCNW-H185WJQZ	AV		J	Main Unit to Power (LED Drive) Unit (LB)
N	QCNW-K594WJQZ		N	J	Main Unit to R/C, LED Unit (RA)
N	QCNW-K595WJQZ		N	J	Main Unit to Speaker (SP)
N	QCNW-K596WJQZ		N	J	Main Unit to Icon Unit (RL)
N	QCNW-K597WJQZ		N	J	Main Unit to Woofer (SB)

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SHARP SERVICE MANUAL

No. S00N240LE820E

LCD COLOUR TELEVISION

PWB Unit Edition

MODELS

LC-40LE820E
LC-46LE820E
LC-52LE820E
LC-40LU820E
LC-46LU820E

In the interests of user-safety (Required by safety regulations in some countries) the set should be restored to its original condition and only parts identical to those specified should be used.

CONTENTS

OUTLINE

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- [2] R/C, LED/ICON/LOGO Unit 1-5

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- [2] SCHEMATIC DIAGRAM.....2-2

Parts Guide

Parts marked with "⚠" are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

OUTLINE

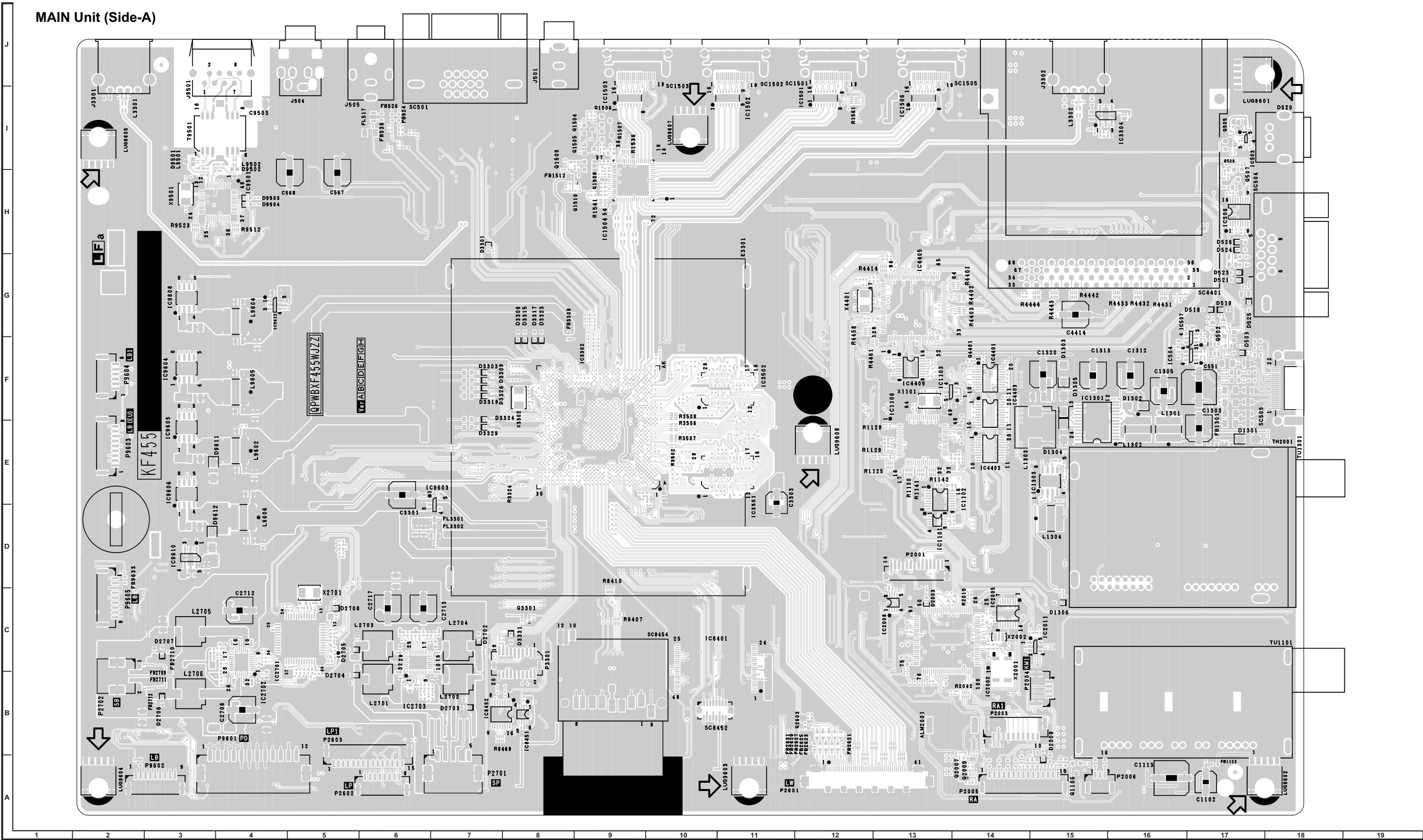
- We inform you that service parts in the PWB Unit.

Unit

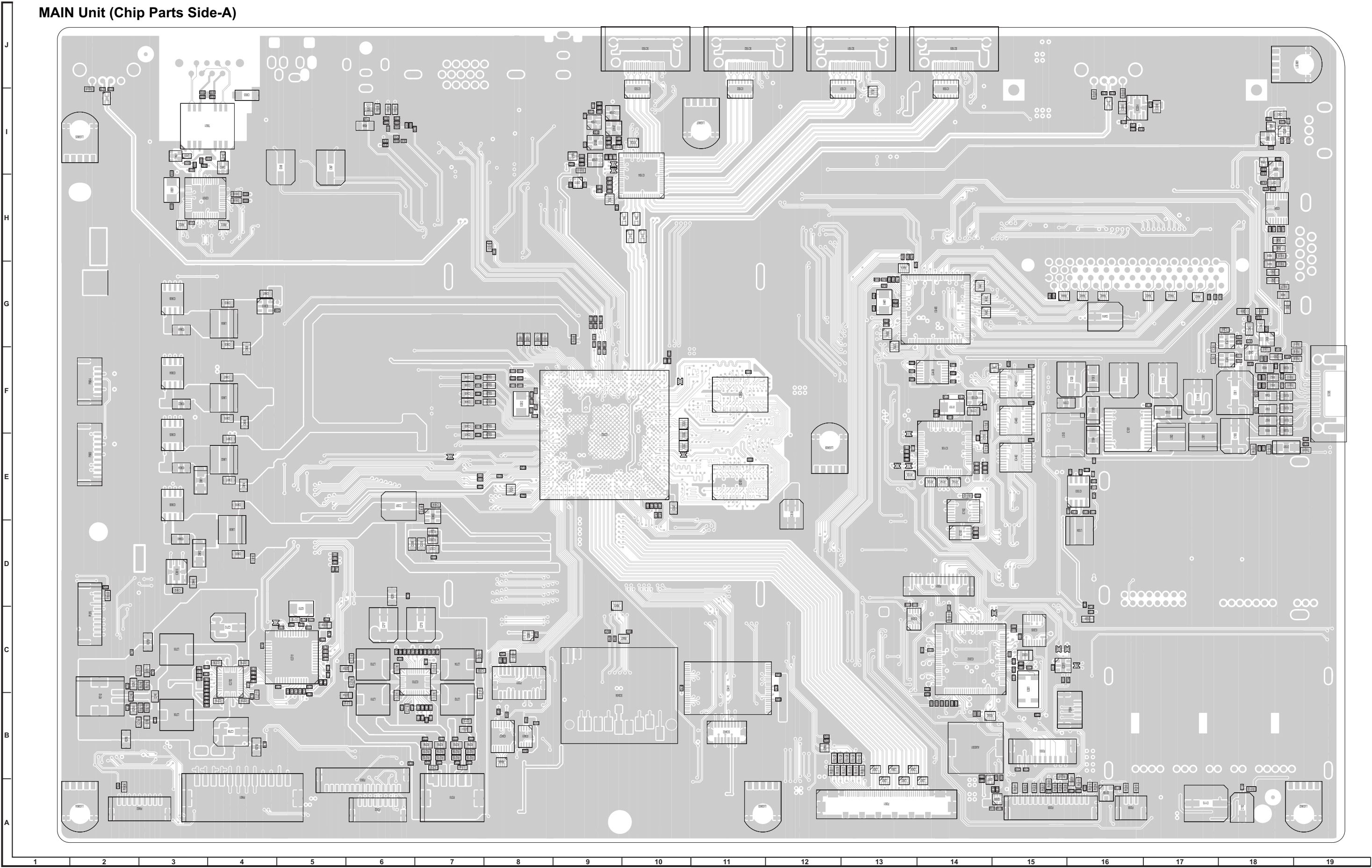
Model Name	Unit name	Description
LC-40LE820E	DKEYDF455FM01	MAIN Unit
LC-46LE820E	DUNTKF494FM02	R/C, LED Unit
LC-52LE820E	DUNTKF493FM03	ICON Unit
LC-40LU820E	DUNTKF493FM04	LOGO Unit
LC-46LU820E		

CHAPTER 1. PRINTED WIRING BOARD ASSEMBLIES

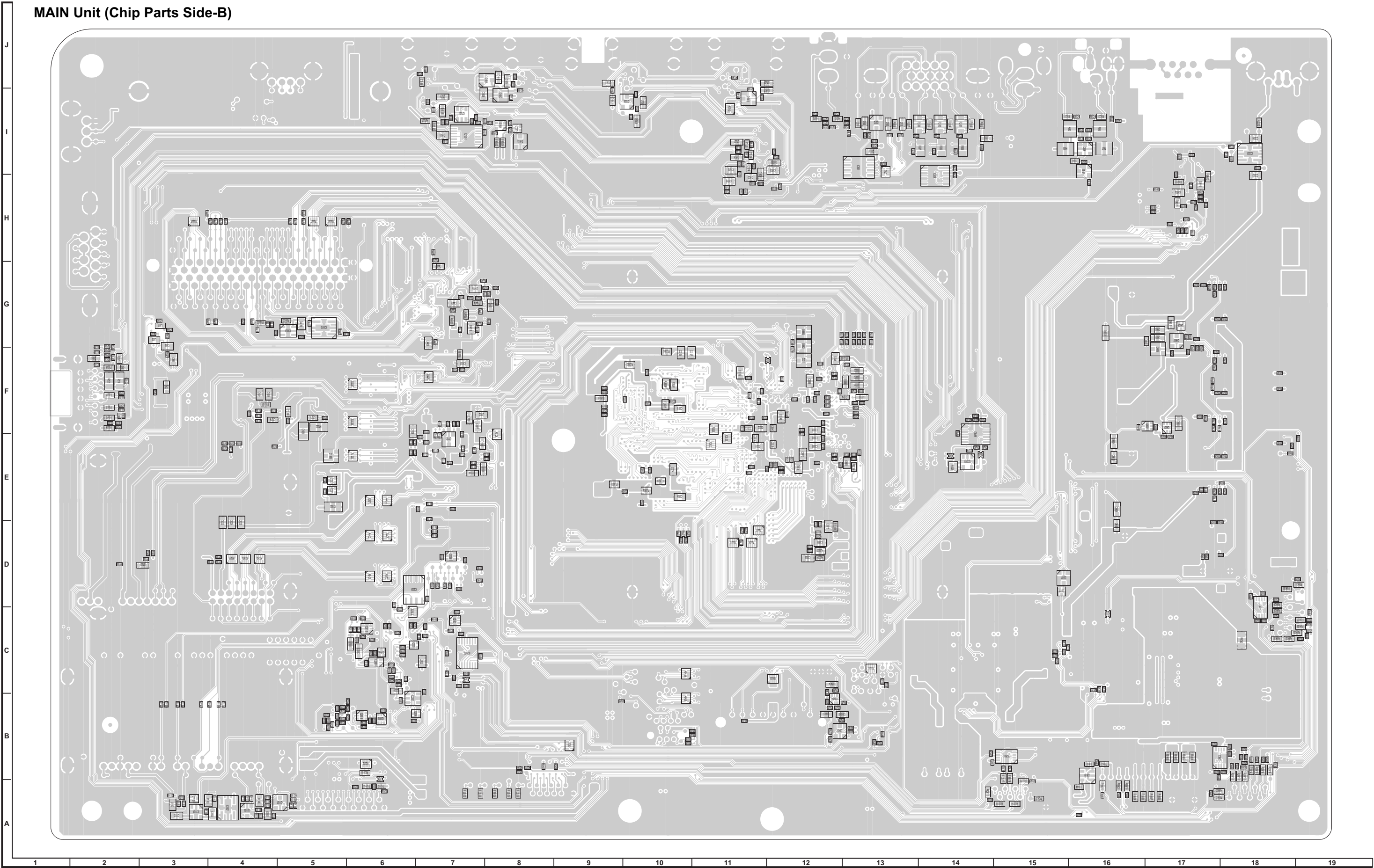
[1] MAIN Unit



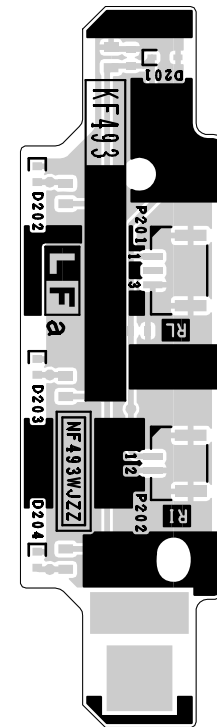
MAIN Unit (Chip Parts Side-A)



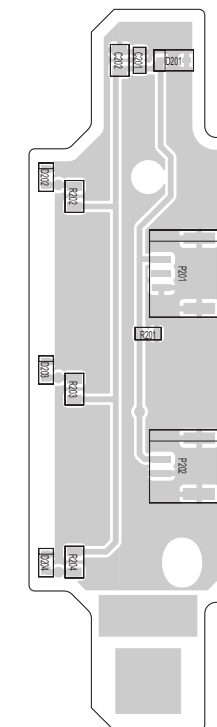
MAIN Unit (Chip Parts Side-B)



LOGO Unit (Side-A)



LOGO Unit (Chip Parts Side-A)



CHAPTER 2. SCHEMATIC DIAGRAM

[1] DESCRIPTION OF SCHEMATIC DIAGRAM

1. VOLTAGE MEASUREMENT CONDITION:

- 1) The voltages at test points are measured on exclusive AC adaptor and the stable supply voltage of AC 220-240V.
Signals are fed by a color bar signal generator for servicing purpose and the above voltages are measured with a 20k ohm/V tester.

2. INDICATION OF RESISTOR & CAPACITOR:

RESISTOR

- 1) The unit of resistance "Ω" is omitted.
(K=kΩ=1000Ω, M=MΩ).
- 2) All resistors are ± 5%, unless otherwise noted.
(K= ± 10%, F= ± 1%, D= ± 0.5%)
- 3) All resistors are 1/16W, unless otherwise noted.

CAPACITOR

- 1) All capacitors are μF, unless otherwise noted.
(P=pF=μμF).
- 2) All capacitors are 50V, unless otherwise noted.

CAUTION:
This circuit diagram is original one, therefore there may be a slight difference from yours.

SAFETY NOTES:
1) DISCONNECT THE AC PLUG FROM THE AC OUTLET BEFORE REPLACING PARTS.
2) SEMICONDUCTOR HEAT SINKS SHOULD BE REGARDED AS POTENTIAL SHOCK HAZARDS WHEN THE CHASSIS IS OPERATING.

IMPORTANT SAFETY NOTICE:
PARTS MARKED WITH " ⚠ " () ARE IMPORTANT FOR MAINTAINING THE SAFETY OF THE SET. BE SURE TO REPLACE THESE PARTS WITH SPECIFIED ONES FOR MAINTAINING THE SAFETY AND PERFORMANCE OF THE SET.

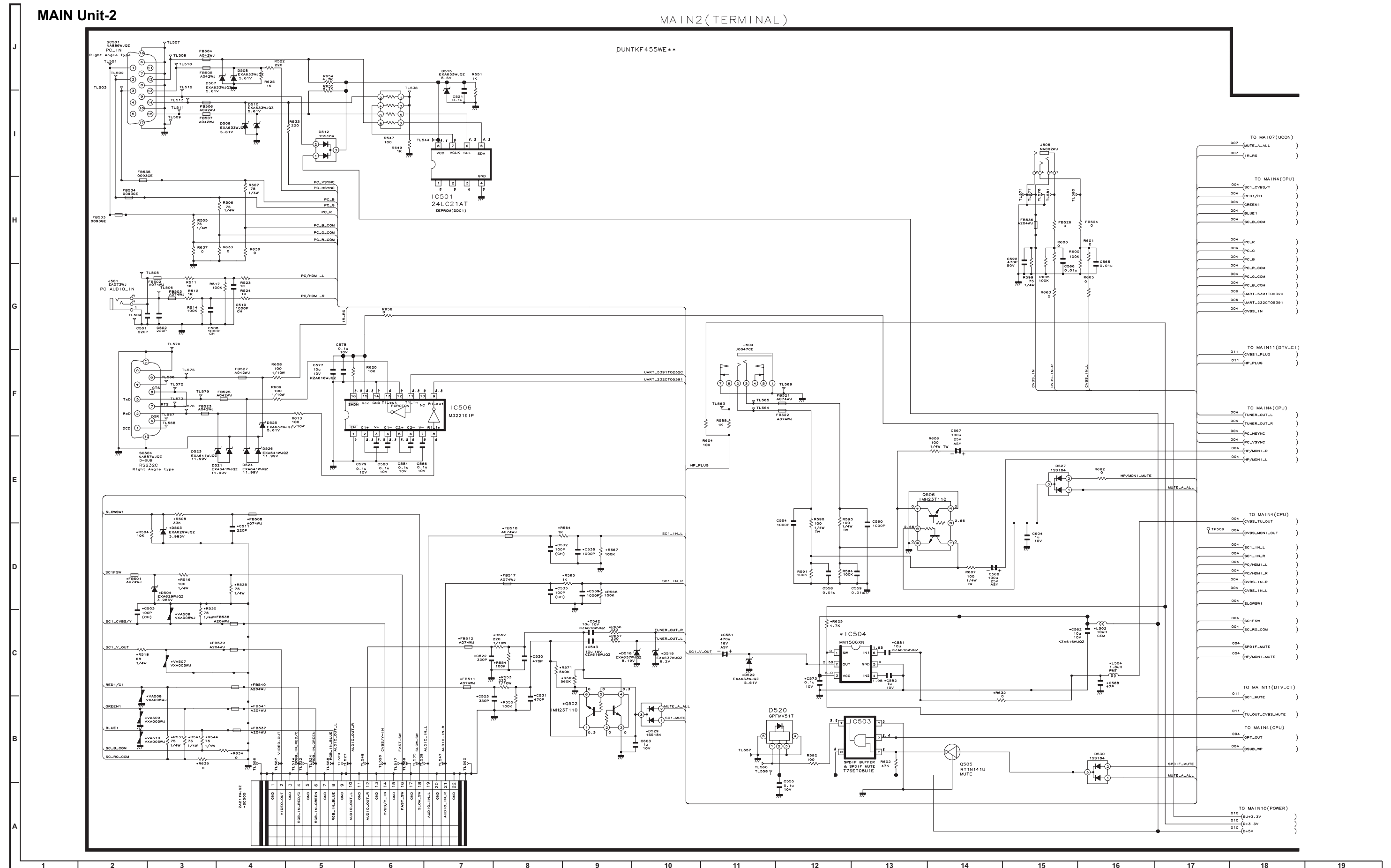
MAIN1 (TUNER)

⚠ AND SHADED COMPONENTS=SAFETY RELATED PARTS

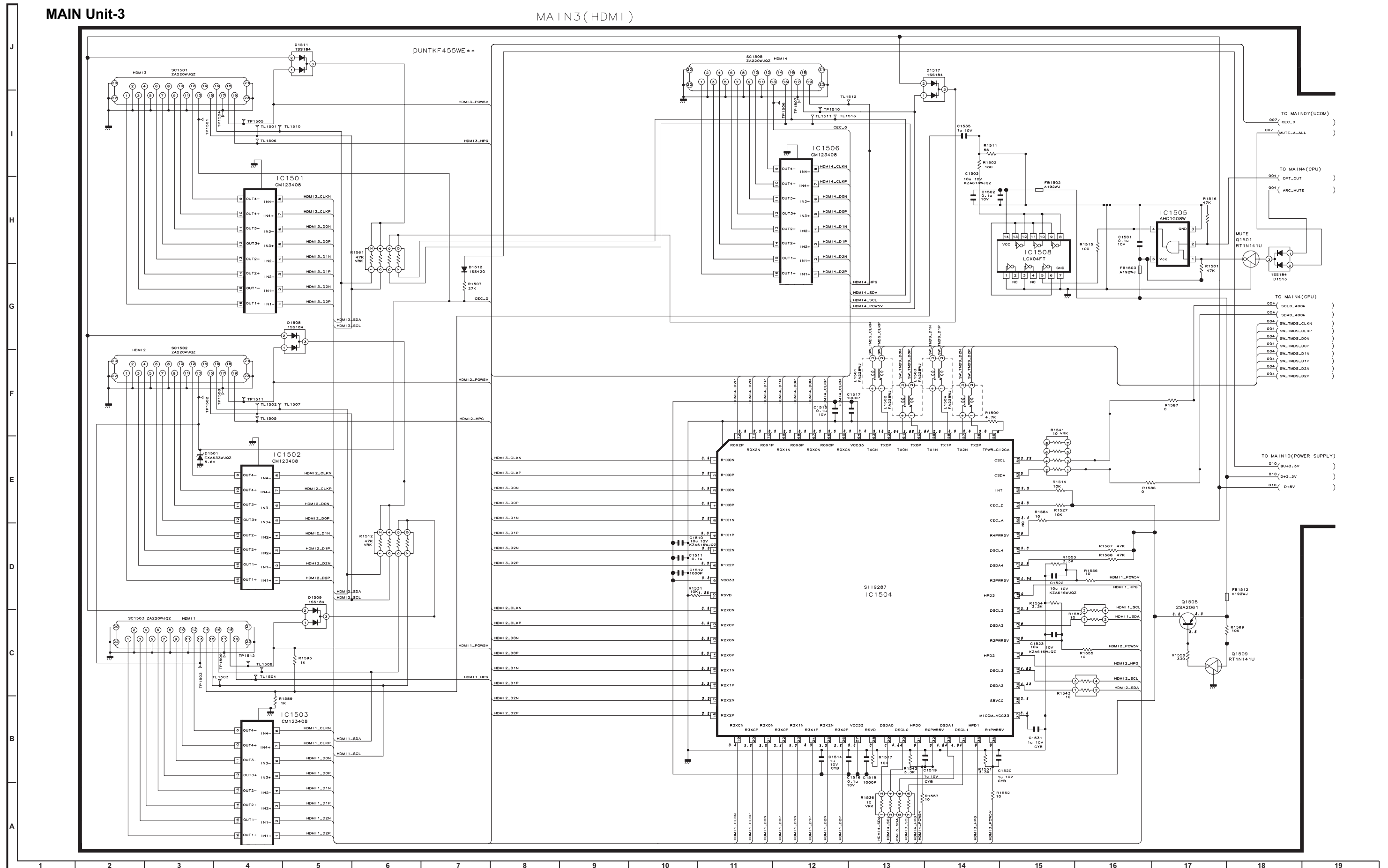


MAIN Unit-2

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MAIN2(TERMINAL)
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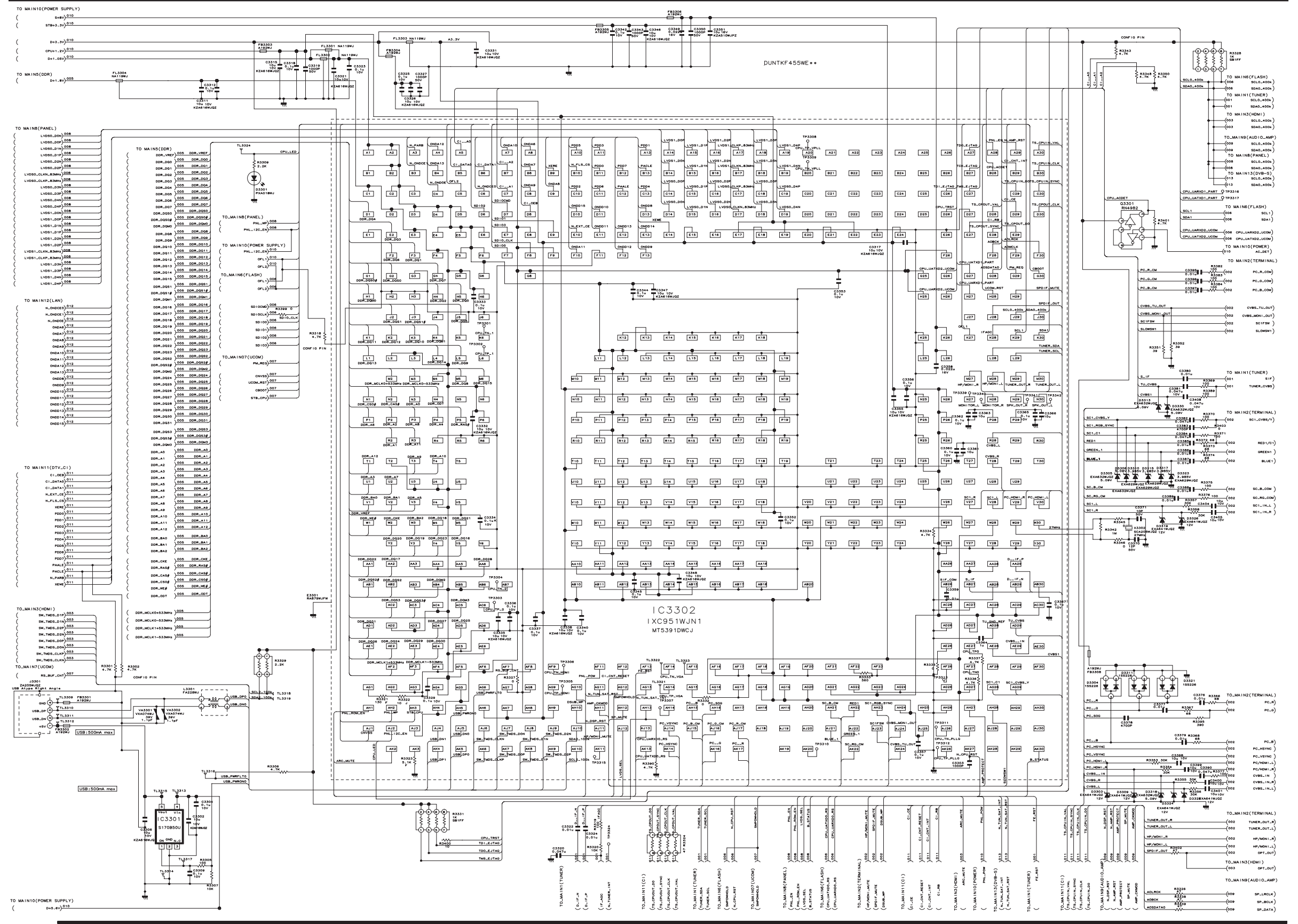


2-4



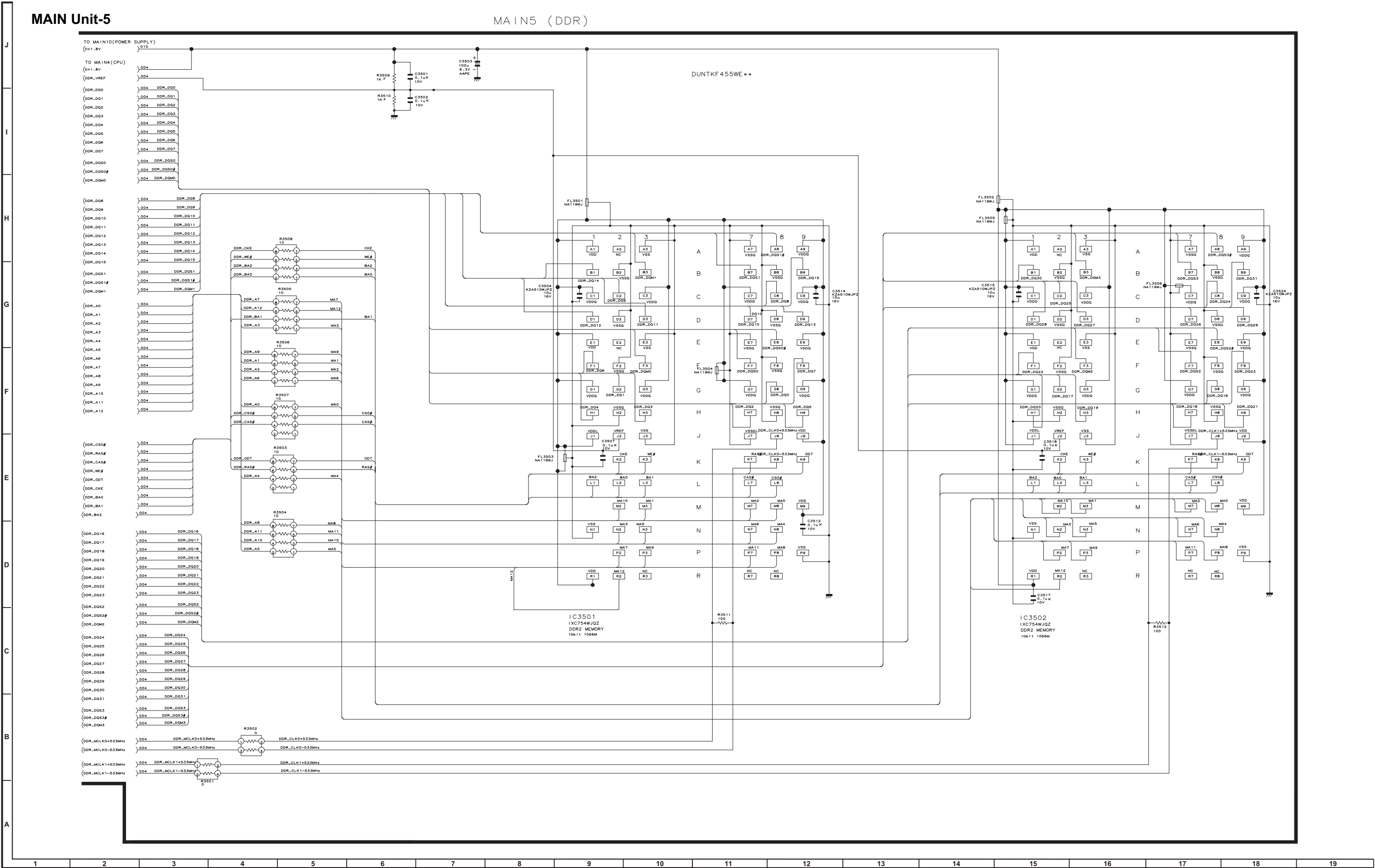
MAIN Unit-4

MAIN4 (CPU MT5391W)

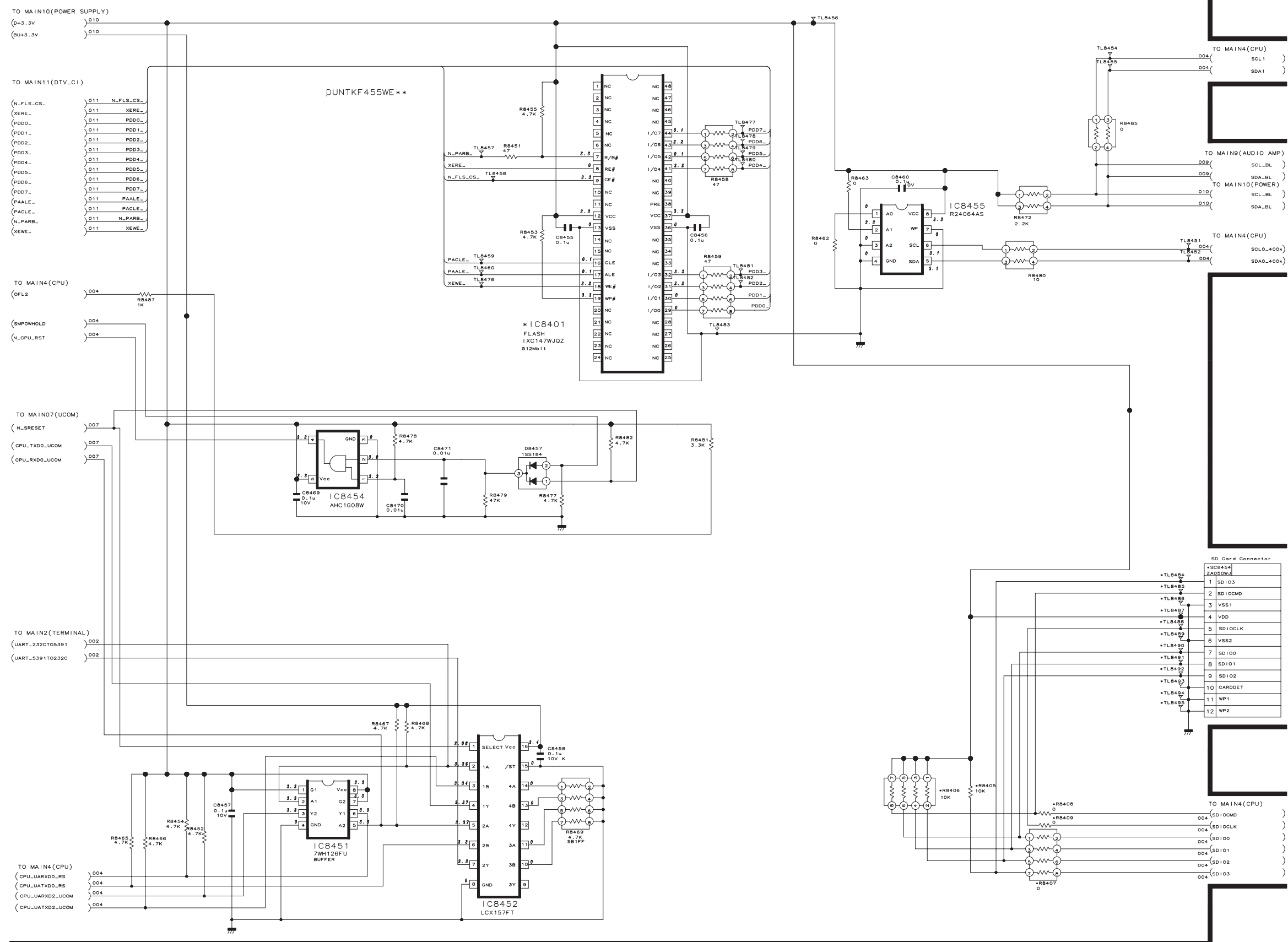


MAIN Unit-5

MAIN5 (DDR)

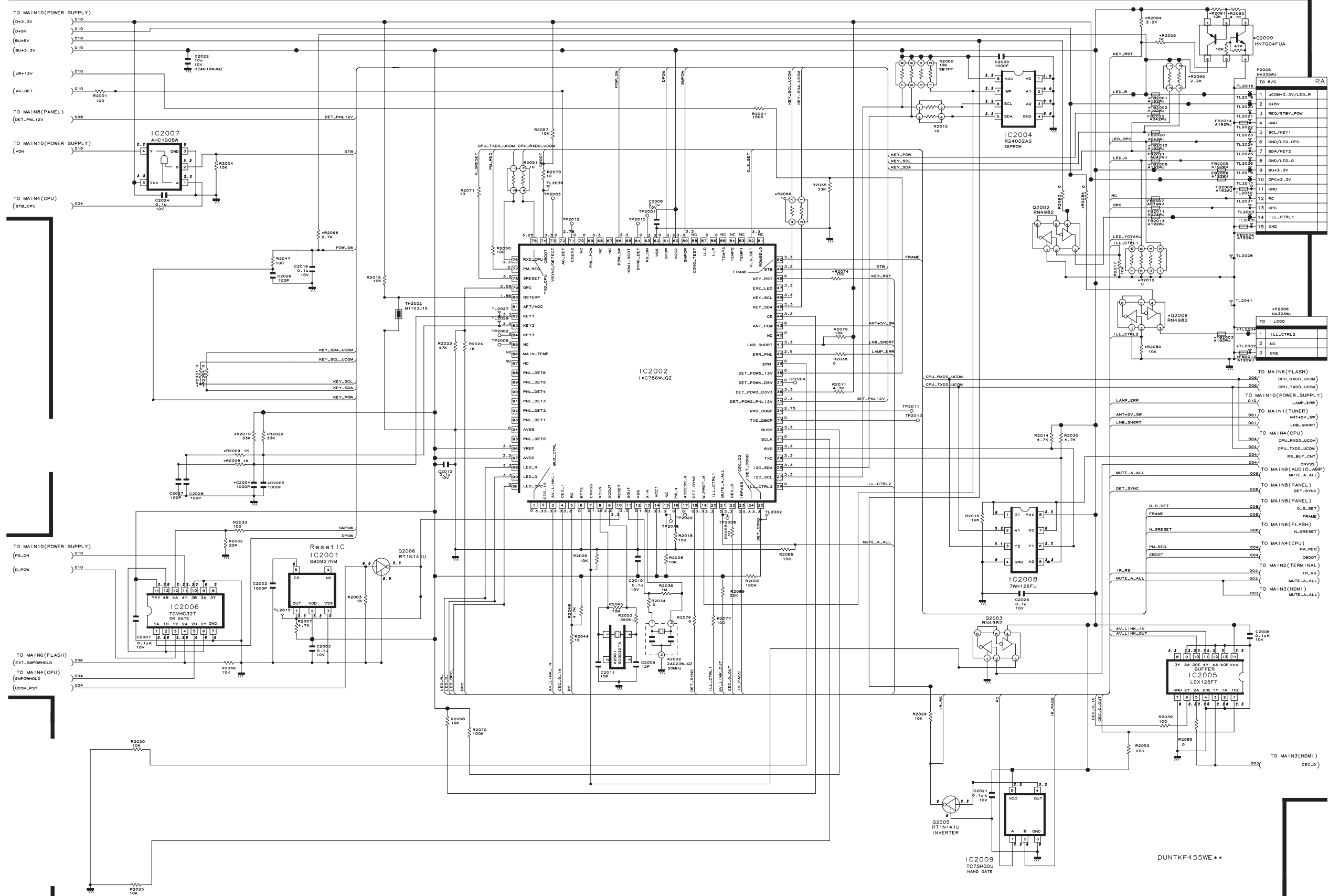


MAIN Unit-6



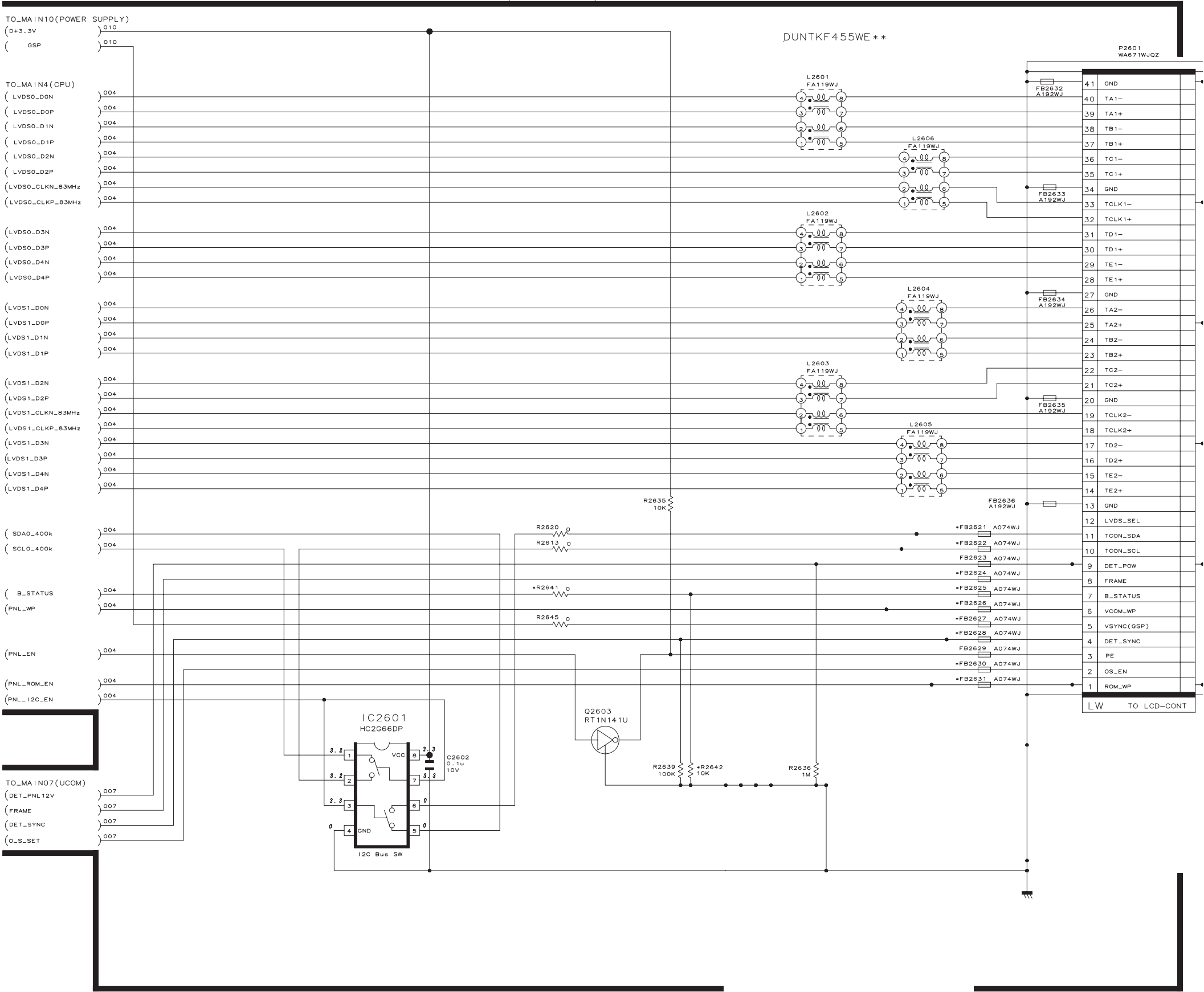
MAIN Unit-7

MAIN7 (UCOM)



MAIN Unit-8

MAIN8 (PANEL)

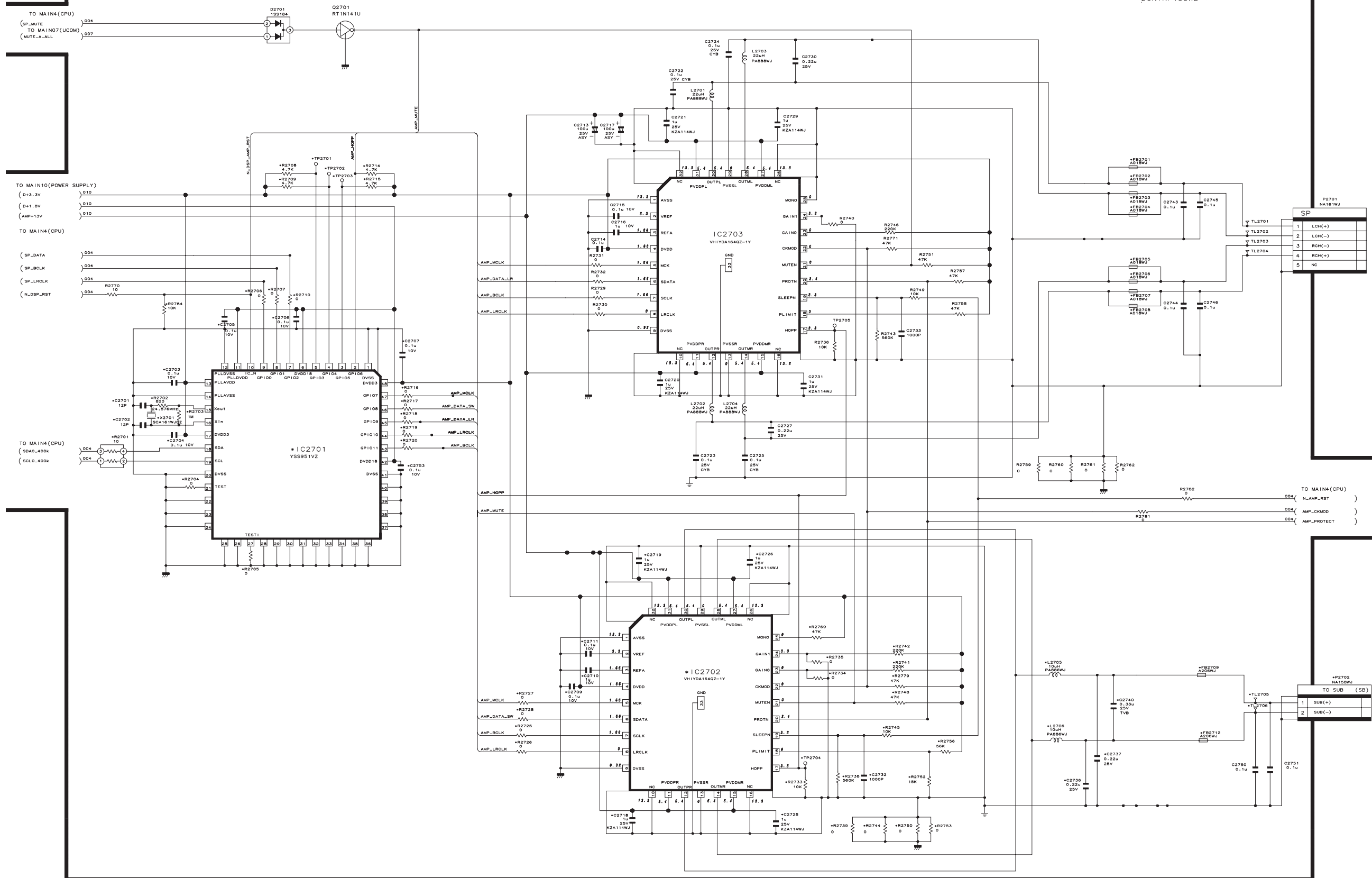


41	GND
40	TA1-
39	TA1+
38	TB1-
37	TB1+
36	TC1-
35	TC1+
34	GND
33	TCLK1-
32	TCLK1+
31	TD1-
30	TD1+
29	TE1-
28	TE1+
27	GND
26	TA2-
25	TA2+
24	TB2-
23	TB2+
22	TC2-
21	TC2+
20	GND
19	TCLK2-
18	TCLK2+
17	TD2-
16	TD2+
15	TE2-
14	TE2+
13	GND
12	LVDS_SEL
11	TCON_SDA
10	TCON_SCL
9	DET_POW
8	FRAME
7	B_STATUS
6	VCOM_WP
5	VSYNC (GSP)
4	DET_SYNC
3	PE
2	OS_EN
1	ROM_WP

LW TO LCD-CONT

MAIN Unit-9

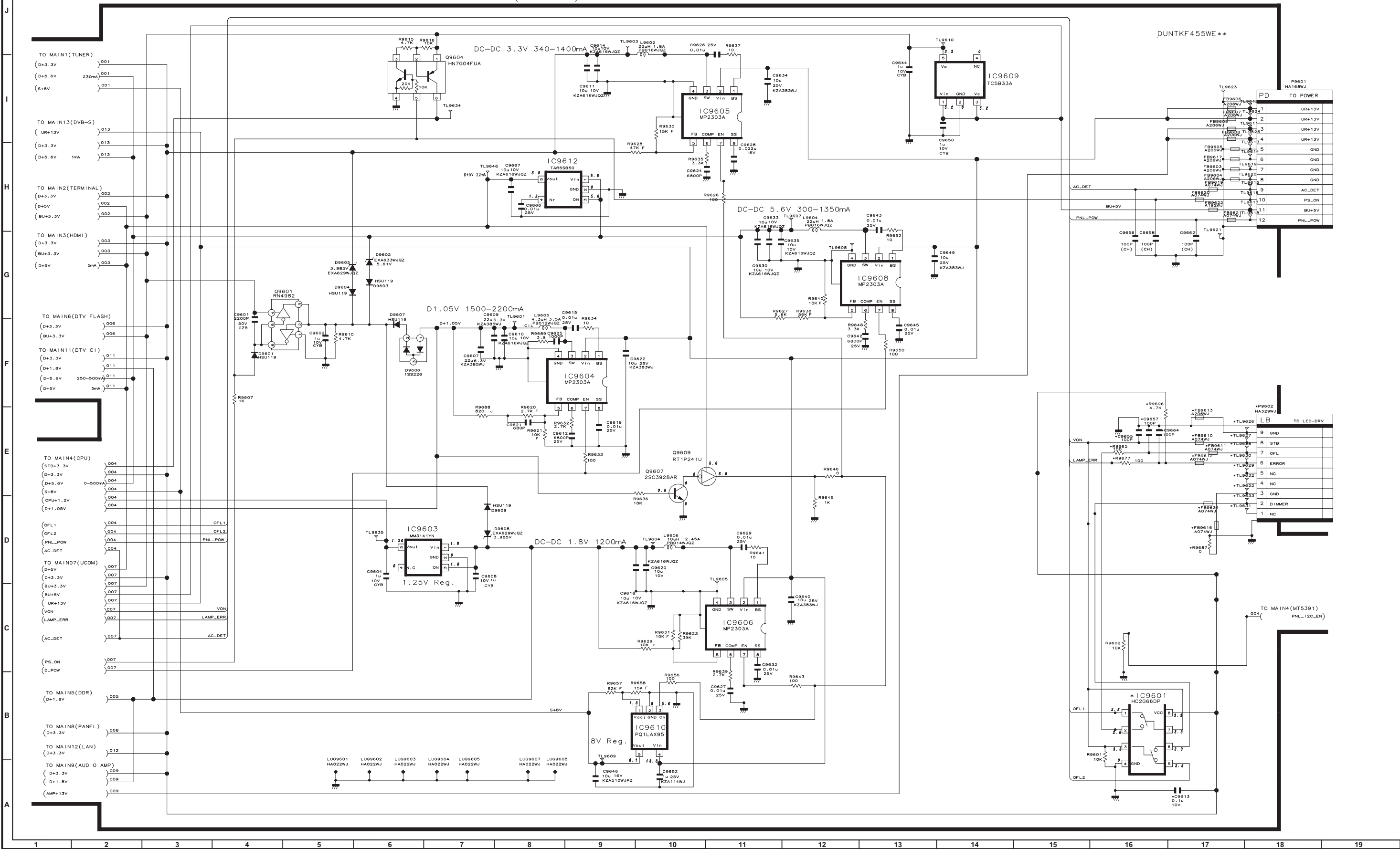
MAIN9 (AUDIO AMP)

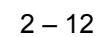


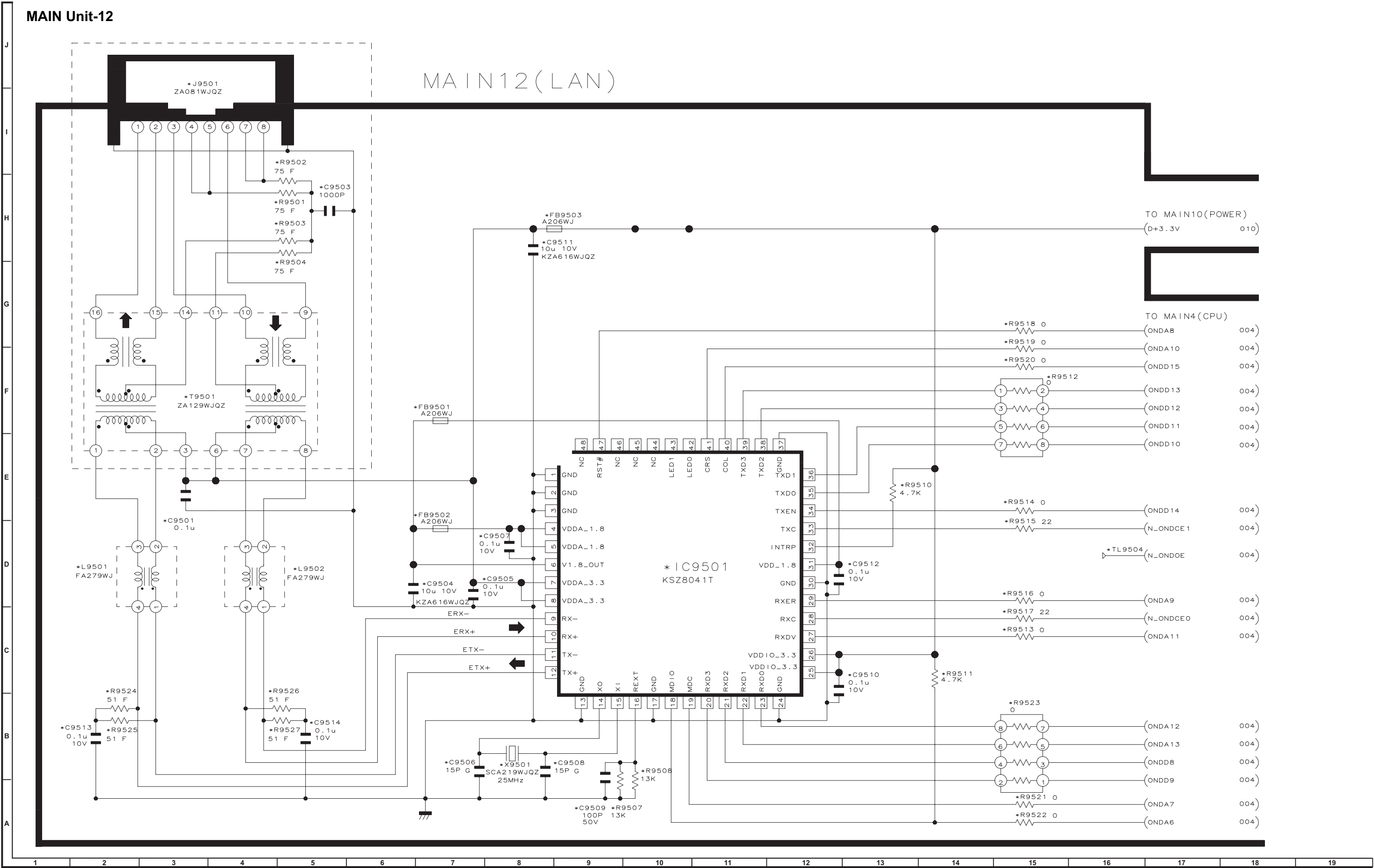
MAIN Unit-10

MAIN10(POWER)

STB3.3V(PS_ON) → 5V → 1.05V → 1.8V,CPU1.2V,8V → 3.3V

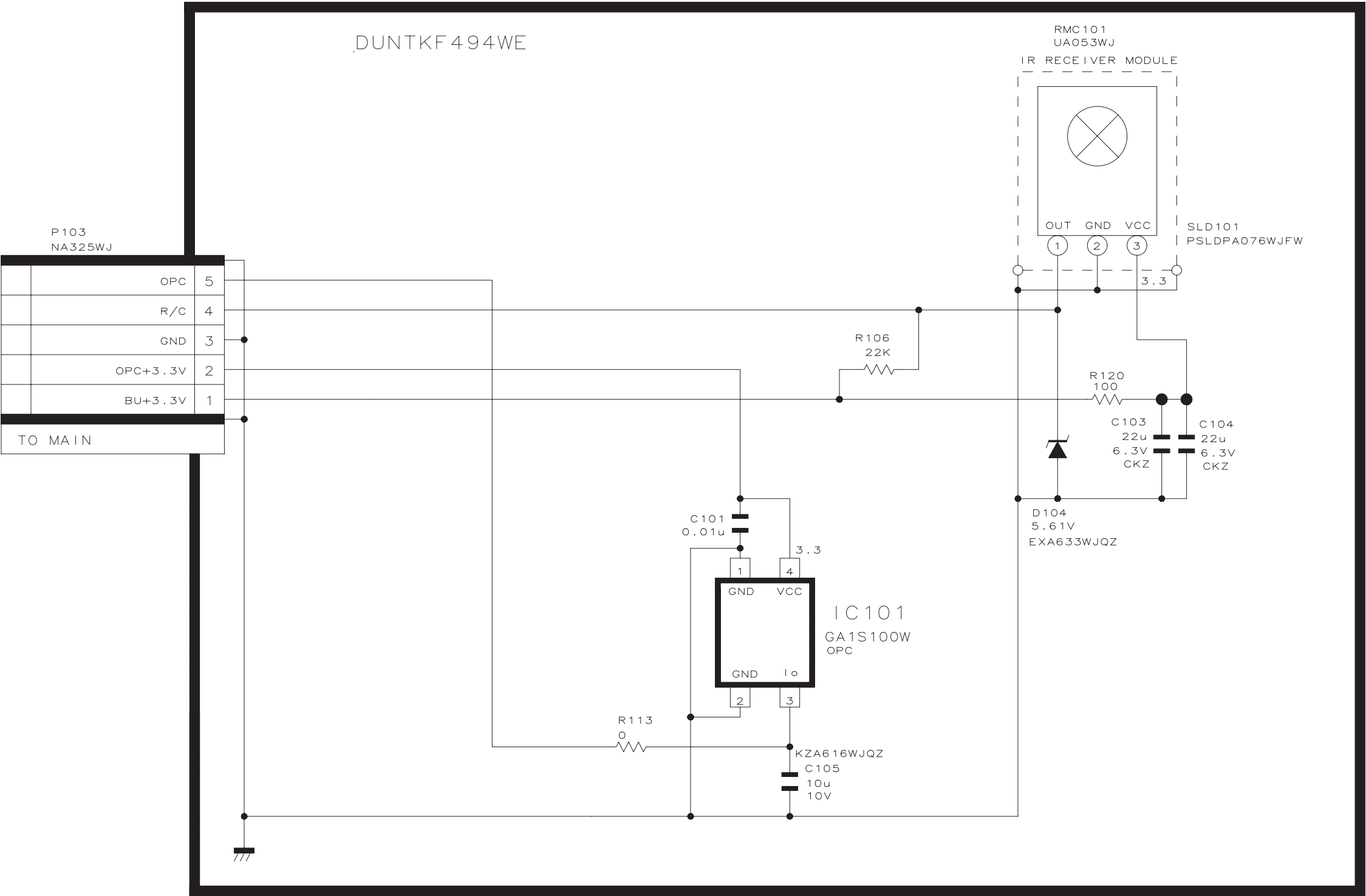


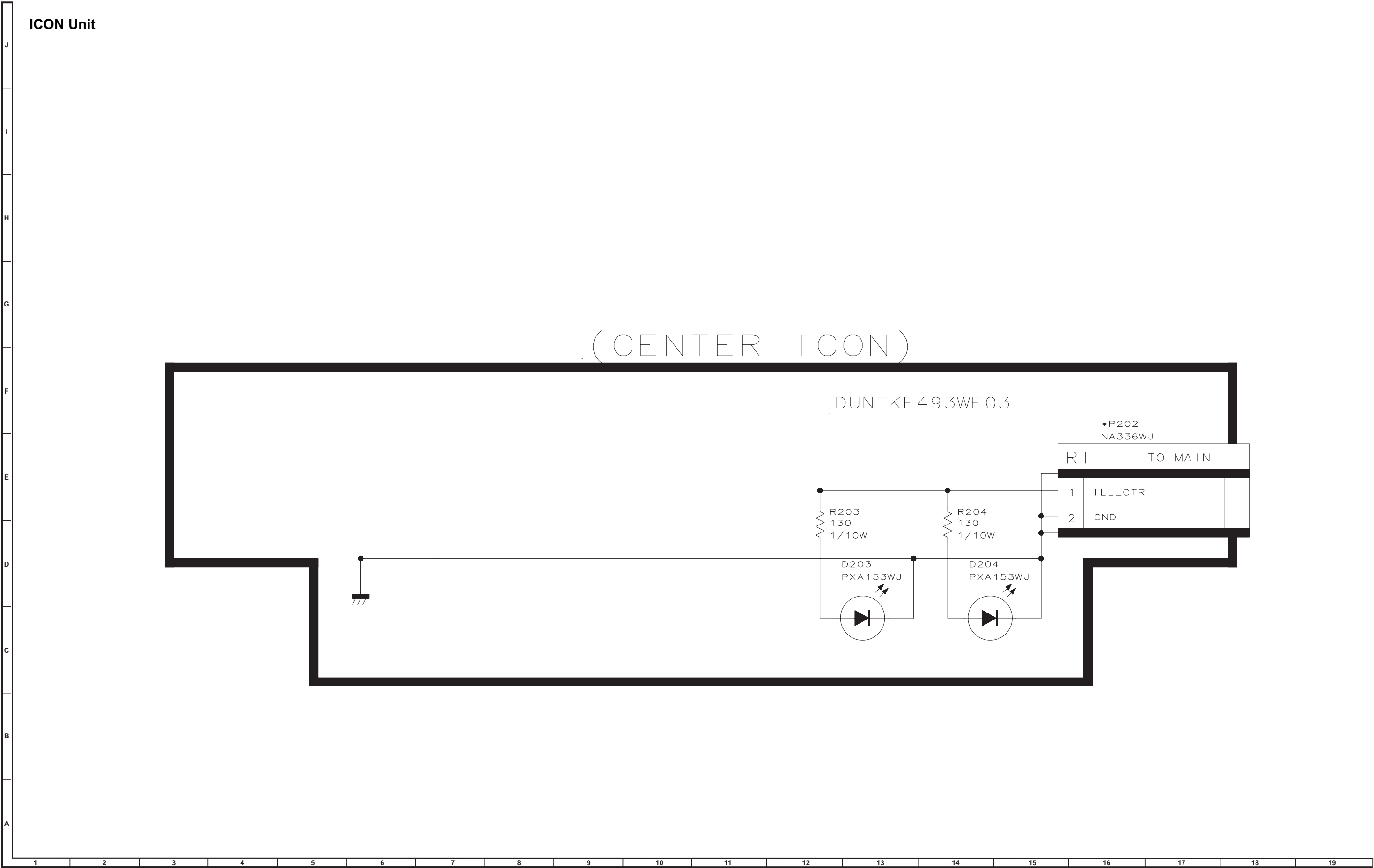


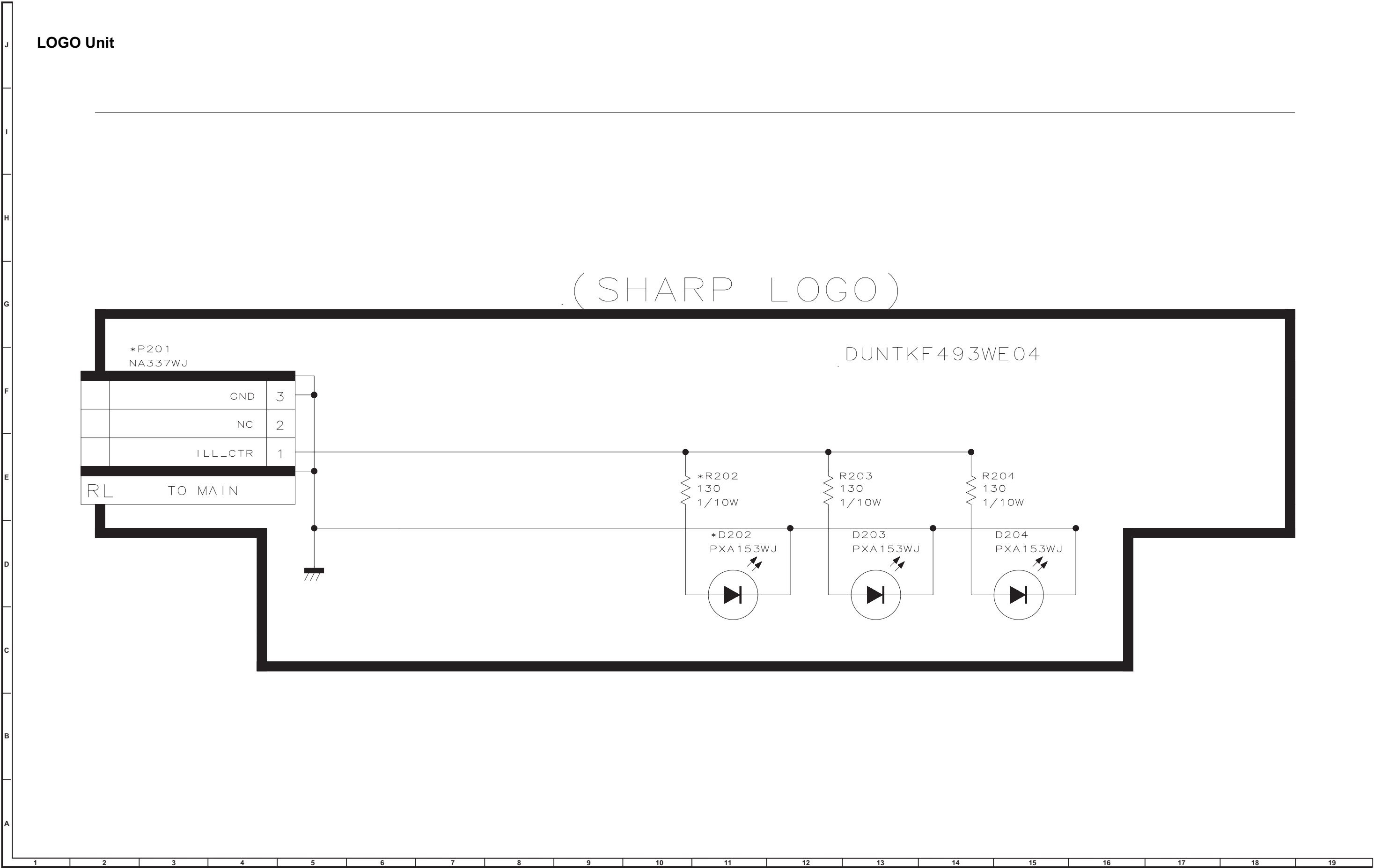


R/C, LED Unit

RC (IR-RECEIVER)







SHARP PARTS GUIDE

No. S00N240LE820E

LCD COLOUR TELEVISION

LC-40LE820E**LC-46LE820E****LC-52LE820E****LC-40LU820E****MODELS LC-46LU820E**

CONTENTS

[1] PRINTED WIRING BOARD
ASSEMBLIES

[2] DKEYDF455FM01 (MAIN Unit)

[3] DUNTKF494FM02 (R/C, LED Unit)

[4] DUNTKF493FM03 (ICON Unit)

[5] DUNTKF493FM04 (LOGO Unit)

Parts marked with "△" are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART DELIVERY	DESCRIPTION
[1] PRINTED WIRING BOARD ASSEMBLIES					
N	DKEYDF455FM01		N	P	MAIN Unit
N	DUNTKF494FM02	AP	N	P	R/C, LED Unit
N	DUNTKF493FM03	AP	N	P	ICON Unit
N	DUNTKF493FM04	AQ	N	P	LOGO Unit
[2] DKEYDF455FM01 (MAIN Unit)					
C501	VCKYCZ1HB221KY	AA		J	Capacitor 220p 50V Ceramic
C502	VCKYCZ1HB221KY	AA		J	Capacitor 220p 50V Ceramic
C503	VCCCCZ1HH101JY	AB		J	Capacitor 100p 50V Ceramic
C508	VCKYCZ1HB102KY	AB		J	Capacitor 1000p 50V Ceramic
C510	VCKYCZ1HB102KY	AB		J	Capacitor 1000p 50V Ceramic
C511	VCKYCZ1HB221KY	AA		J	Capacitor 220p 50V Ceramic
C521	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C522	VCKYCZ1HB331KY	AA		J	Capacitor 330p 50V Ceramic
C523	VCKYCZ1HB331KY	AA		J	Capacitor 330p 50V Ceramic
C530	VCKYCZ1HB471KY	AB		J	Capacitor 470p 50V Ceramic
C531	VCKYCZ1HB471KY	AB		J	Capacitor 470p 50V Ceramic
C532	VCCCCZ1HH101JY	AB		J	Capacitor 100p 50V Ceramic
C533	VCCCCZ1HH101JY	AB		J	Capacitor 100p 50V Ceramic
C538	VCKYCZ1HB102KY	AB		J	Capacitor 1000p 50V Ceramic
C539	VCKYCZ1HB102KY	AB		J	Capacitor 1000p 50V Ceramic
C542	RC-KZA616WJQZY	AB		J	Capacitor 10 10V Ceramic
C543	RC-KZA616WJQZY	AB		J	Capacitor 10 10V Ceramic
C551	VCEASY1CN477MY	AD		J	Capacitor 470 16V Electrolytic
C554	VCKYCZ1HB102KY	AB		J	Capacitor 1000p 50V Ceramic
C555	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C558	VCKYCZ1EB103KY	AA		J	Capacitor 0.01 25V Ceramic
C559	VCKYCZ1EB103KY	AA		J	Capacitor 0.01 25V Ceramic
C560	VCKYCZ1HB102KY	AB		J	Capacitor 1000p 50V Ceramic
C562	RC-KZA616WJQZY	AB		J	Capacitor 10 10V Ceramic
C565	VCKYCZ1EB103KY	AA		J	Capacitor 0.01 25V Ceramic
C566	VCKYCZ1EB103KY	AA		J	Capacitor 0.01 25V Ceramic
C567	VCEASY1EN107MY	AC		J	Capacitor 100 25V Electrolytic
C568	VCEASY1EN107MY	AC		J	Capacitor 100 25V Electrolytic
C573	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C577	RC-KZA616WJQZY	AB		J	Capacitor 10 10V Ceramic
C578	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C579	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C580	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C581	RC-KZA616WJQZY	AB		J	Capacitor 10 10V Ceramic
C582	VCKYCY1AB105KY	AB		J	Capacitor 1 10V Ceramic
C584	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C586	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C588	VCCCCZ1HH470JY	AB		J	Capacitor 47p 50V Ceramic
C592	VCKYCZ1HB471KY	AB		J	Capacitor 470p 50V Ceramic
C603	VCKYCY1AB105KY	AB		J	Capacitor 1 10V Ceramic
C604	VCKYCY1AB105KY	AB		J	Capacitor 1 10V Ceramic
C1103	RC-KZA616WJQZY	AB		J	Capacitor 10 10V Ceramic
C1104	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C1105	VCKYCZ1HB102KY	AB		J	Capacitor 1000p 50V Ceramic
C1107	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C1109	VCKYCZ1EB103KY	AA		J	Capacitor 0.01 25V Ceramic
C1110	VCKYCZ1EB103KY	AA		J	Capacitor 0.01 25V Ceramic
C1111	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C1113	VCEASY1CN477MY	AD		J	Capacitor 470 16V Electrolytic
C1115	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C1116	RC-KZA616WJQZY	AB		J	Capacitor 10 10V Ceramic
C1123	VCKYCZ1EB103KY	AA		J	Capacitor 0.01 25V Ceramic
C1124	VCKYCZ1EB103KY	AA		J	Capacitor 0.01 25V Ceramic
C1125	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C1126	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C1127	RC-KZA616WJQZY	AB		J	Capacitor 10 10V Ceramic
C1128	RC-KZA616WJQZY	AB		J	Capacitor 10 10V Ceramic
C1129	VCKYCY1AB105KY	AB		J	Capacitor 1 10V Ceramic
C1130	VCKYCY1AB105KY	AB		J	Capacitor 1 10V Ceramic
C1131	RC-KZA616WJQZY	AB		J	Capacitor 10 10V Ceramic
C1133	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C1134	VCKYCZ1EB103KY	AA		J	Capacitor 0.01 25V Ceramic
C1135	VCKYCZ1EB103KY	AA		J	Capacitor 0.01 25V Ceramic
C1136	VCKYCZ1EB103KY	AA		J	Capacitor 0.01 25V Ceramic
C1137	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C1138	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C1139	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C1141	RC-KZA510WJPZY	AB		J	Capacitor 10 16V Ceramic
C1142	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C1143	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C1144	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C1145	RC-KZA616WJQZY	AB		J	Capacitor 10 10V Ceramic
C1146	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C1147	VCCCCZ1HH150JY	AB		J	Capacitor 15p 50V Ceramic
C1148	VCCCCZ1HH150JY	AB		J	Capacitor 15p 50V Ceramic
C1149	VCKYCZ1EB103KY	AA		J	Capacitor 0.01 25V Ceramic
C1151	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C1152	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C1153	VCKYCZ1EB103KY	AA		J	Capacitor 0.01 25V Ceramic

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART DELIVERY	DESCRIPTION
[2] DKEYDF455FM01 (MAIN Unit)					
C1154	RC-KZA616WJQZY	AB		J	Capacitor 10 10V Ceramic
C1157	VCKYCZ1EB103KY	AA		J	Capacitor 0.01 25V Ceramic
C1158	VCKYCZ1EB103KY	AA		J	Capacitor 0.01 25V Ceramic
C1161	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C1173	RC-KZA616WJQZY	AB		J	Capacitor 10 10V Ceramic
C1501	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C1502	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C1503	RC-KZA616WJQZY	AB		J	Capacitor 10 10V Ceramic
C1510	RC-KZA616WJQZY	AB		J	Capacitor 10 10V Ceramic
C1511	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C1512	VCKYCZ1HB102KY	AB		J	Capacitor 1000p 50V Ceramic
C1514	VCKYCY1AB105KY	AB		J	Capacitor 1 10V Ceramic
C1515	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C1516	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C1517	VCKYCZ1HB102KY	AB		J	Capacitor 1000p 50V Ceramic
C1518	VCKYCZ1HB102KY	AB		J	Capacitor 1000p 50V Ceramic
C1519	VCKYCY1AB105KY	AB		J	Capacitor 1 10V Ceramic
C1520	VCKYCY1AB105KY	AB		J	Capacitor 1 10V Ceramic
C1522	RC-KZA616WJQZY	AB		J	Capacitor 10 10V Ceramic
C1523	RC-KZA616WJQZY	AB		J	Capacitor 10 10V Ceramic
C1531	VCKYCY1AB105KY	AB		J	Capacitor 1 10V Ceramic
C1535	VCKYCY1AB105KY	AB		J	Capacitor 1 10V Ceramic
C2002	VCKYCZ1HB152KY	AB		J	Capacitor 1500p 50V Ceramic
C2003	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C2004	VCKYCZ1HB102KY	AB		J	Capacitor 1000p 50V Ceramic
C2005	VCKYCZ1HB102KY	AB		J	Capacitor 1000p 50V Ceramic
C2006	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C2007	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C2008	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C2009	VCCCGZ1HH120JY	AB		J	Capacitor 12p 50V Ceramic
C2010	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C2011	VCCCGZ1HH150JY	AB		J	Capacitor 15p 50V Ceramic
C2012	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C2016	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C2020	VCKYCZ1HB102KY	AB		J	Capacitor 1000p 50V Ceramic
C2021	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C2022	RC-KZA616WJQZY	AB		J	Capacitor 10 10V Ceramic
C2024	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C2026	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C2027	VCCCGZ1HH101JY	AB		J	Capacitor 100p 50V Ceramic
C2028	VCCCGZ1HH101JY	AB		J	Capacitor 100p 50V Ceramic
C2029	VCCCGZ1HH101JY	AB		J	Capacitor 100p 50V Ceramic
C2602	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C2701	VCCCGZ1HH120GY	AA		J	Capacitor 12p 50V Ceramic
C2702	VCCCGZ1HH120GY		N	P	Capacitor 12p 50V Ceramic
C2703	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C2704	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C2705	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C2706	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C2707	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C2709	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C2710	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C2711	VCKYCY1AB105KY	AB		J	Capacitor 1 10V Ceramic
C2713	VCEASY1EN107MY	AC		J	Capacitor 100 25V Electrolytic
C2714	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C2715	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C2716	VCKYCY1AB105KY	AB		J	Capacitor 1 10V Ceramic
C2717	VCEASY1EN107MY	AC		J	Capacitor 100 25V Electrolytic
C2718	RC-KZA114WJZZY	AB		J	Capacitor 1 25V Ceramic
C2719	RC-KZA114WJZZY	AB		J	Capacitor 1 25V Ceramic
C2720	RC-KZA114WJZZY	AB		J	Capacitor 1 25V Ceramic
C2721	RC-KZA114WJZZY	AB		J	Capacitor 1 25V Ceramic
C2722	VCKYCY1EB104KY	AB		J	Capacitor 0.1 25V Ceramic
C2723	VCKYCY1EB104KY	AB		J	Capacitor 0.1 25V Ceramic
C2724	VCKYCY1EB104KY	AB		J	Capacitor 0.1 25V Ceramic
C2725	VCKYCY1EB104KY	AB		J	Capacitor 0.1 25V Ceramic
C2726	RC-KZA114WJZZY	AB		J	Capacitor 1 25V Ceramic
C2727	RC-KZA709WJQZY	AA		J	Capacitor 0.22 25V Ceramic
C2728	RC-KZA114WJZZY	AB		J	Capacitor 1 25V Ceramic
C2729	RC-KZA114WJZZY	AB		J	Capacitor 1 25V Ceramic
C2730	RC-KZA709WJQZY	AA		J	Capacitor 0.22 25V Ceramic
C2731	RC-KZA114WJZZY	AB		J	Capacitor 1 25V Ceramic
C2732	VCKYCZ1HB102KY	AB		J	Capacitor 1000p 50V Ceramic
C2733	VCKYCZ1HB102KY	AB		J	Capacitor 1000p 50V Ceramic
C2736	RC-KZA709WJQZY	AA		J	Capacitor 0.22 25V Ceramic
C2737	RC-KZA709WJQZY	AA		J	Capacitor 0.22 25V Ceramic
C2740	VCKYTV1EB334KY	AB		J	Capacitor 0.33 25V Ceramic
C2743	VCKYCZ1EF104ZY		N	P	Capacitor 0.1 25V Ceramic
C2744	VCKYCZ1EF104ZY		N	P	Capacitor 0.1 25V Ceramic
C2745	VCKYCZ1EF104ZY		N	P	Capacitor 0.1 25V Ceramic
C2746	VCKYCZ1EF104ZY		N	P	Capacitor 0.1 25V Ceramic
C2750	VCKYCZ1EF104ZY		N	P	Capacitor 0.1 25V Ceramic
C2751	VCKYCZ1EF104ZY		N	P	Capacitor 0.1 25V Ceramic
C2753	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C3302	RC-KZA616WJQZY	AB		J	Capacitor 10 10V Ceramic

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART DELIVERY	DESCRIPTION
[2] DKEYDF455FM01 (MAIN Unit)					
C3303	VCKYCZ1HB102KY	AB		J	Capacitor 1000p 50V Ceramic
C3304	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C3306	RC-KZA616WJQZY	AB		J	Capacitor 10 10V Ceramic
C3309	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C3311	RC-KZA616WJQZY	AB		J	Capacitor 10 10V Ceramic
C3312	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C3315	RC-KZA616WJQZY	AB		J	Capacitor 10 10V Ceramic
C3317	RC-KZA616WJQZY	AB		J	Capacitor 10 10V Ceramic
C3318	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C3319	VCKYCZ1HB102KY	AB		J	Capacitor 1000p 50V Ceramic
C3320	VCKYCZ1AB473KY	AB		J	Capacitor 0.047 10V Ceramic
C3321	RC-KZA616WJQZY	AB		J	Capacitor 10 10V Ceramic
C3322	VCKYCZ1EB103KY	AA		J	Capacitor 0.01 25V Ceramic
C3323	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C3324	VCKYCZ1EB103KY	AA		J	Capacitor 0.01 25V Ceramic
C3325	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C3326	RC-KZA616WJQZY	AB		J	Capacitor 10 10V Ceramic
C3327	VCKYCZ1HB102KY	AB		J	Capacitor 1000p 50V Ceramic
C3329	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C3331	RC-KZA616WJQZY	AB		J	Capacitor 10 10V Ceramic
C3332	RC-KZA616WJQZY	AB		J	Capacitor 10 10V Ceramic
C3333	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C3334	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C3335	RC-KZA616WJQZY	AB		J	Capacitor 10 10V Ceramic
C3336	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C3337	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C3338	RC-KZA616WJQZY	AB		J	Capacitor 10 10V Ceramic
C3340	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C3342	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C3343	VCKYCZ1HB102KY	AB		J	Capacitor 1000p 50V Ceramic
C3344	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C3345	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C3346	RC-KZA616WJQZY	AB		J	Capacitor 10 10V Ceramic
C3347	RC-KZA616WJQZY	AB		J	Capacitor 10 10V Ceramic
C3348	RC-KZA616WJQZY	AB		J	Capacitor 10 10V Ceramic
C3349	VCKYCZ1CB223KY	AC		J	Capacitor 0.022 16V Ceramic
C3350	VCKYCZ1HB102KY	AB		J	Capacitor 1000p 50V Ceramic
C3351	RC-KZA510WJPZY	AB		J	Capacitor 10 16V Ceramic
C3352	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C3353	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C3355	RC-KZA616WJQZY	AB		J	Capacitor 10 10V Ceramic
C3356	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C3357	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C3358	VCKYCZ1CB223KY	AC		J	Capacitor 0.022 16V Ceramic
C3359	VCKYCZ1EB103KY	AA		J	Capacitor 0.01 25V Ceramic
C3360	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C3361	RC-KZA616WJQZY	AB		J	Capacitor 10 10V Ceramic
C3362	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C3363	RC-KZA616WJQZY	AB		J	Capacitor 10 10V Ceramic
C3364	VCKYCY1AB105KY	AB		J	Capacitor 1 10V Ceramic
C3365	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C3366	RC-KZA616WJQZY	AB		J	Capacitor 10 10V Ceramic
C3367	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C3370	VCCCCZ1HH120JY	AB		J	Capacitor 12p 50V Ceramic
C3371	VCCCCZ1HH100DY	AB		J	Capacitor 10p 50V Ceramic
C3376	VCKYCZ1EB103KY	AA		J	Capacitor 0.01 25V Ceramic
C3377	VCKYCZ1EB103KY	AA		J	Capacitor 0.01 25V Ceramic
C3378	VCKYCZ1HB472KY	AA		J	Capacitor 4700p 50V Ceramic
C3379	VCKYCZ1EB103KY	AA		J	Capacitor 0.01 25V Ceramic
C3380	VCKYCZ1EB103KY	AA		J	Capacitor 0.01 25V Ceramic
C3381	VCKYCZ1AB473KY	AB		J	Capacitor 0.047 10V Ceramic
C3382	VCKYCZ1AB473KY	AB		J	Capacitor 0.047 10V Ceramic
C3383	VCKYCZ1HB472KY	AA		J	Capacitor 4700p 50V Ceramic
C3384	VCKYCZ1AB473KY	AB		J	Capacitor 0.047 10V Ceramic
C3385	VCKYCZ1EB103KY	AA		J	Capacitor 0.01 25V Ceramic
C3386	VCKYCZ1EB103KY	AA		J	Capacitor 0.01 25V Ceramic
C3387	VCKYCZ1EB103KY	AA		J	Capacitor 0.01 25V Ceramic
C3388	VCKYCZ1EB103KY	AA		J	Capacitor 0.01 25V Ceramic
C3389	VCKYCZ1EB103KY	AA		J	Capacitor 0.01 25V Ceramic
C3390	VCKYCZ1AB473KY	AB		J	Capacitor 0.047 10V Ceramic
C3395	VCKYCZ1EB103KY	AA		J	Capacitor 0.01 25V Ceramic
C3396	VCKYCZ1EB103KY	AA		J	Capacitor 0.01 25V Ceramic
C3397	VCKYCZ1EB103KY	AA		J	Capacitor 0.01 25V Ceramic
C3398	RC-KZA616WJQZY	AB		J	Capacitor 10 10V Ceramic
C3399	RC-KZA616WJQZY	AB		J	Capacitor 10 10V Ceramic
C3400	RC-KZA616WJQZY	AB		J	Capacitor 10 10V Ceramic
C3401	RC-KZA616WJQZY	AB		J	Capacitor 10 10V Ceramic
C3404	RC-KZA616WJQZY	AB		J	Capacitor 10 10V Ceramic
C3405	RC-KZA616WJQZY	AB		J	Capacitor 10 10V Ceramic
C3408	VCKYCZ1AB473KY	AB		J	Capacitor 0.047 10V Ceramic
C3501	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C3502	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C3503	VCAAPE0JJ107MY	AE		J	Capacitor 100 6.3V Electrolytic
C3504	RC-KZA510WJPZY	AB		J	Capacitor 10 16V Ceramic
C3507	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART DELIVERY	DESCRIPTION
[2] DKEYDF455FM01 (MAIN Unit)					
C3512	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C3514	RC-KZA510WJPZY	AB		J	Capacitor 10 16V Ceramic
C3515	RC-KZA510WJPZY	AB		J	Capacitor 10 16V Ceramic
C3517	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C3518	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C3524	RC-KZA510WJPZY	AB		J	Capacitor 10 16V Ceramic
C4401	RC-KZA616WJQZY	AB		J	Capacitor 10 10V Ceramic
C4402	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C4403	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C4404	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C4405	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C4406	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C4407	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C4408	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C4409	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C4412	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C4413	RC-KZA616WJQZY	AB		J	Capacitor 10 10V Ceramic
C4414	VCAAPD1AJ686MY	AE		J	Capacitor 68 10V Electrolytic
C4415	RC-KZA616WJQZY	AB		J	Capacitor 10 10V Ceramic
C4416	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C4417	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C4418	RC-KZA616WJQZY	AB		J	Capacitor 10 10V Ceramic
C4419	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C4420	RC-KZA616WJQZY	AB		J	Capacitor 10 10V Ceramic
C4421	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C4422	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C4423	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C4424	VCCCCZ1HH8R0DY	AA		J	Capacitor 8p 50V Ceramic
C4425	VCCCCZ1HH100DY	AB		J	Capacitor 10p 50V Ceramic
C4426	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C4427	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C8455	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C8456	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C8457	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C8458	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C8460	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C8469	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C8470	VCKYCZ1EB103KY	AA		J	Capacitor 0.01 25V Ceramic
C8471	VCKYCZ1EB103KY	AA		J	Capacitor 0.01 25V Ceramic
C9501	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C9503	RC-KZA523WJQZY	AD		J	Capacitor 1000p 50V Ceramic
C9504	RC-KZA616WJQZY	AB		J	Capacitor 10 10V Ceramic
C9505	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C9506	VCCCCZ1HH150GY	AA		J	Capacitor 15p 50V Ceramic
C9507	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C9508	VCCCCZ1HH150GY	AA		J	Capacitor 15p 50V Ceramic
C9509	VCCCCZ1HH101JY	AB		J	Capacitor 100p 50V Ceramic
C9510	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C9511	RC-KZA616WJQZY	AB		J	Capacitor 10 10V Ceramic
C9512	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C9513	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C9514	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C9601	VCKYCZ1HB222KY	AB		J	Capacitor 2200p 50V Ceramic
C9602	VCKYCY1AB105KY	AB		J	Capacitor 1 10V Ceramic
C9604	VCKYCY1AB105KY	AB		J	Capacitor 1 10V Ceramic
C9607	RC-KZA385WJZZY	AD		J	Capacitor 22 6.3V Ceramic
C9608	VCKYCY1AB105KY	AB		J	Capacitor 1 10V Ceramic
C9609	RC-KZA385WJZZY	AD		J	Capacitor 22 6.3V Ceramic
C9610	RC-KZA616WJQZY	AB		J	Capacitor 10 10V Ceramic
C9611	RC-KZA616WJQZY	AB		J	Capacitor 10 10V Ceramic
C9612	VCKYCZ1EB682KY	AB		J	Capacitor 6800p 25V Ceramic
C9613	VCKYCZ1AB104KY	AB		J	Capacitor 0.1 10V Ceramic
C9614	RC-KZA616WJQZY	AB		J	Capacitor 10 10V Ceramic
C9615	VCKYCZ1EB103KY	AA		J	Capacitor 0.01 25V Ceramic
C9618	RC-KZA616WJQZY	AB		J	Capacitor 10 10V Ceramic
C9619	VCKYCZ1EB103KY	AA		J	Capacitor 0.01 25V Ceramic
C9620	RC-KZA616WJQZY	AB		J	Capacitor 10 10V Ceramic
C9621	VCKYCZ1HB681KY	AB		J	Capacitor 680p 50V Ceramic
C9622	RC-KZA383WJZZY	AC		J	Capacitor 10 25V Ceramic
C9624	VCKYCZ1EB682KY	AB		J	Capacitor 6800p 25V Ceramic
C9625	VCKYCZ1HB102KY	AB		J	Capacitor 1000p 50V Ceramic
C9626	VCKYCZ1EB103KY	AA		J	Capacitor 0.01 25V Ceramic
C9627	VCKYCZ1EB103KY	AA		J	Capacitor 0.01 25V Ceramic
C9628	VCKYCZ1CB223KY	AC		J	Capacitor 0.022 16V Ceramic
C9629	VCKYCZ1EB103KY	AA		J	Capacitor 0.01 25V Ceramic
C9630	RC-KZA616WJQZY	AB		J	Capacitor 10 10V Ceramic
C9632	VCKYCZ1EB103KY	AA		J	Capacitor 0.01 25V Ceramic
C9633	RC-KZA616WJQZY	AB		J	Capacitor 10 10V Ceramic
C9634	RC-KZA383WJZZY	AC		J	Capacitor 10 25V Ceramic
C9635	RC-KZA616WJQZY	AB		J	Capacitor 10 10V Ceramic
C9640	RC-KZA383WJZZY	AC		J	Capacitor 10 25V Ceramic
C9642	VCKYCZ1EB682KY	AB		J	Capacitor 6800p 25V Ceramic
C9643	VCKYCZ1EB103KY	AA		J	Capacitor 0.01 25V Ceramic
C9644	VCKYCY1AB105KY	AB		J	Capacitor 1 10V Ceramic
C9645	VCKYCZ1EB103KY	AA		J	Capacitor 0.01 25V Ceramic

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART DELIVERY	DESCRIPTION
[2] DKEYDF455FM01 (MAIN Unit)					
C9646	RC-KZA510WJPZY	AB		J	Capacitor 10 16V Ceramic
C9649	RC-KZA383WJZZY	AC		J	Capacitor 10 25V Ceramic
C9650	VCKYCY1AB105KY	AB		J	Capacitor 1 10V Ceramic
C9652	RC-KZA114WJZZY	AB		J	Capacitor 1 25V Ceramic
C9655	VCCCCZ1HH101JY	AB		J	Capacitor 100p 50V Ceramic
C9656	VCCCCZ1HH101JY	AB		J	Capacitor 100p 50V Ceramic
C9657	VCCCCZ1HH101JY	AB		J	Capacitor 100p 50V Ceramic
C9658	VCCCCZ1HH101JY	AB		J	Capacitor 100p 50V Ceramic
C9662	VCCCCZ1HH101JY	AB		J	Capacitor 100p 50V Ceramic
C9664	VCCCCZ1HH101JY	AB		J	Capacitor 100p 50V Ceramic
C9666	VCKYCY1EB103KY	AA		J	Capacitor 0.01 25V Ceramic
C9667	RC-KZA616WJQZY	AB		J	Capacitor 10 10V Ceramic
D503	RH-EXA629WJQZY		N	P	Zener Diode RKZ3.9B2KG
D504	RH-EXA629WJQZY		N	P	Zener Diode RKZ3.9B2KG
D507	RH-EXA633WJQZY	AA		J	Zener Diode RKZ5.6B2KG
D508	RH-EXA633WJQZY	AA		J	Zener Diode RKZ5.6B2KG
D509	RH-EXA633WJQZY	AA		J	Zener Diode RKZ5.6B2KG
D510	RH-EXA633WJQZY	AA		J	Zener Diode RKZ5.6B2KG
D512	VHD1SS184++-1Y		N	P	Diode 1SS184(T5L,F,T)
D515	RH-EXA633WJQZY	AA		J	Zener Diode RKZ5.6B2KG
D518	RH-EXA637WJQZY		N	P	Zener Diode RKZ8.2B2KG
D519	RH-EXA637WJQZY		N	P	Zener Diode RKZ8.2B2KG
D520	VHPGPFMV51T-1		N	P	Photo Diode GPFMV51T
D521	RH-EXA641WJQZY	AA		J	Zener Diode RKZ12B2KG
D522	RH-EXA633WJQZY	AA		J	Zener Diode RKZ5.6B2KG
D523	RH-EXA641WJQZY	AA		J	Zener Diode RKZ12B2KG
D524	RH-EXA641WJQZY	AA		J	Zener Diode RKZ12B2KG
D525	RH-EXA633WJQZY	AA		J	Zener Diode RKZ5.6B2KG
D526	RH-EXA641WJQZY	AA		J	Zener Diode RKZ12B2KG
D527	VHD1SS184++-1Y		N	P	Diode 1SS184(T5L,F,T)
D529	VHD1SS184++-1Y		N	P	Diode 1SS184(T5L,F,T)
D530	VHD1SS184++-1Y		N	P	Diode 1SS184(T5L,F,T)
D1501	RH-EXA633WJQZY	AA		J	Zener Diode RKZ5.6B2KG
D1508	VHD1SS184++-1Y		N	P	Diode 1SS184(T5L,F,T)
D1509	VHD1SS184++-1Y		N	P	Diode 1SS184(T5L,F,T)
D1511	VHD1SS184++-1Y		N	P	Diode 1SS184(T5L,F,T)
D1512	VHD1SS420++-1Y		N	P	Diode 1SS420(TPL3,F)1SS420(TL3,F,T)
D1513	VHD1SS184++-1Y		N	P	Diode 1SS184(T5L,F,T)
D1517	VHD1SS184++-1Y		N	P	Diode 1SS184(T5L,F,T)
D2701	VHD1SS184++-1Y		N	P	Diode 1SS184(T5L,F,T)
D3301	RH-PXA018WJZZY	AC		J	LED GM1HD55200A
D3303	RH-EXA641WJQZY	AA		J	Zener Diode RKZ12B2KG
D3304	VHD1SS226//--1Y	AC		J	Diode 1SS226(T5L,F,T)
D3305	RH-EXA632WJQZY		N	P	Zener Diode RKZ5.1B2KG
D3306	RH-EXA632WJQZY		N	P	Zener Diode RKZ5.1B2KG
D3309	RH-EXA641WJQZY	AA		J	Zener Diode RKZ12B2KG
D3310	RH-EXA629WJQZY		N	P	Zener Diode RKZ3.9B2KG
D3311	VHD1SS226//--1Y	AC		J	Diode 1SS226(T5L,F,T)
D3313	RH-EXA632WJQZY		N	P	Zener Diode RKZ5.1B2KG
D3315	RH-EXA629WJQZY		N	P	Zener Diode RKZ3.9B2KG
D3317	RH-EXA629WJQZY		N	P	Zener Diode RKZ3.9B2KG
D3318	RH-EXA632WJQZY		N	P	Zener Diode RKZ5.1B2KG
D3319	RH-EXA641WJQZY	AA		J	Zener Diode RKZ12B2KG
D3321	VHD1SS226//--1Y	AC		J	Diode 1SS226(T5L,F,T)
D3323	RH-EXA629WJQZY		N	P	Zener Diode RKZ3.9B2KG
D3324	RH-EXA641WJQZY	AA		J	Zener Diode RKZ12B2KG
D3326	RH-EXA641WJQZY	AA		J	Zener Diode RKZ12B2KG
D3329	RH-EXA641WJQZY	AA		J	Zener Diode RKZ12B2KG
D3330	RH-EXA632WJQZY		N	P	Zener Diode RKZ5.1B2KG
D8457	VHD1SS184++-1Y		N	P	Diode 1SS184(T5L,F,T)
D9601	VHDHSU119//--1Y	AB		J	Diode HSU119TRF-E
D9602	RH-EXA633WJQZY	AA		J	Zener Diode RKZ5.6B2KG
D9603	VHDHSU119//--1Y	AB		J	Diode HSU119TRF-E
D9604	VHDHSU119//--1Y	AB		J	Diode HSU119TRF-E
D9605	RH-EXA629WJQZY		N	P	Zener Diode RKZ3.9B2KG
D9606	VHD1SS226//--1Y	AC		J	Diode 1SS226(T5L,F,T)
D9607	VHDHSU119//--1Y	AB		J	Diode HSU119TRF-E
D9608	RH-EXA629WJQZY		N	P	Zener Diode RKZ3.9B2KG
D9609	VHDHSU119//--1Y	AB		J	Diode HSU119TRF-E
E3301	PRDARA879WJFW		N	P	Heat Sink
FB501	RBLN-A074WJZZY	AA		J	Ferrite Bead
FB502	RBLN-A074WJZZY	AA		J	Ferrite Bead
FB503	RBLN-A074WJZZY	AA		J	Ferrite Bead
FB504	RBLN-A042WJZZY	AB		J	Ferrite Bead
FB505	RBLN-A042WJZZY	AB		J	Ferrite Bead
FB506	RBLN-A042WJZZY	AB		J	Ferrite Bead
FB507	RBLN-A042WJZZY	AB		J	Ferrite Bead
FB508	RBLN-A074WJZZY	AA		J	Ferrite Bead
FB511	RBLN-A074WJZZY	AA		J	Ferrite Bead
FB512	RBLN-A074WJZZY	AA		J	Ferrite Bead
FB517	RBLN-A074WJZZY	AA		J	Ferrite Bead
FB518	RBLN-A074WJZZY	AA		J	Ferrite Bead
FB521	RBLN-A074WJZZY	AA		J	Ferrite Bead
FB522	RBLN-A074WJZZY	AA		J	Ferrite Bead
FB523	RBLN-A042WJZZY	AB		J	Ferrite Bead

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART DELIVERY	DESCRIPTION
[2] DKEYDF455FM01 (MAIN Unit)					
FB524	VRS-CY1JF000JY	AA		J	Ferrite Bead 0 1/16W Metal Oxide
FB525	RBLN-A042WJZZY	AB		J	Ferrite Bead
FB526	VRS-CY1JF000JY	AA		J	Ferrite Bead 0 1/16W Metal Oxide
FB527	RBLN-A042WJZZY	AB		J	Ferrite Bead
FB533	RBLN-0093GEZZY	AB		J	Ferrite Bead
FB534	RBLN-0093GEZZY	AB		J	Ferrite Bead
FB535	RBLN-0093GEZZY	AB		J	Ferrite Bead
FB536	RBLN-A204WJZZY	AA		J	Ferrite Bead
FB537	RBLN-A204WJZZY	AA		J	Ferrite Bead
FB538	RBLN-A204WJZZY	AA		J	Ferrite Bead
FB539	RBLN-A204WJZZY	AA		J	Ferrite Bead
FB540	RBLN-A204WJZZY	AA		J	Ferrite Bead
FB541	RBLN-A204WJZZY	AA		J	Ferrite Bead
FB1102	RBLN-A192WJZZY	AA		J	Ferrite Bead
FB1103	RBLN-A192WJZZY	AA		J	Ferrite Bead
FB1502	RBLN-A192WJZZY	AA		J	Ferrite Bead
FB1503	RBLN-A192WJZZY	AA		J	Ferrite Bead
FB1512	RBLN-A192WJZZY	AA		J	Ferrite Bead
FB2001	RBLN-A192WJZZY	AA		J	Ferrite Bead
FB2002	RBLN-A192WJZZY	AA		J	Ferrite Bead
FB2003	RBLN-A192WJZZY	AA		J	Ferrite Bead
FB2004	RBLN-A192WJZZY	AA		J	Ferrite Bead
FB2005	RBLN-A192WJZZY	AA		J	Ferrite Bead
FB2006	RBLN-A192WJZZY	AA		J	Ferrite Bead
FB2007	RBLN-A074WJZZY	AA		J	Ferrite Bead
FB2008	RBLN-A192WJZZY	AA		J	Ferrite Bead
FB2009	RBLN-A192WJZZY	AA		J	Ferrite Bead
FB2010	RBLN-A192WJZZY	AA		J	Ferrite Bead
FB2011	RBLN-A074WJZZY	AA		J	Ferrite Bead
FB2012	RBLN-A192WJZZY	AA		J	Ferrite Bead
FB2013	RBLN-A192WJZZY	AA		J	Ferrite Bead
FB2014	RBLN-A192WJZZY	AA		J	Ferrite Bead
FB2020	RBLN-A042WJZZY	AB		J	Ferrite Bead
FB2021	RBLN-A042WJZZY	AB		J	Ferrite Bead
FB2022	RBLN-A042WJZZY	AB		J	Ferrite Bead
FB2621	RBLN-A074WJZZY	AA		J	Ferrite Bead
FB2622	RBLN-A074WJZZY	AA		J	Ferrite Bead
FB2623	RBLN-A074WJZZY	AA		J	Ferrite Bead
FB2624	RBLN-A074WJZZY	AA		J	Ferrite Bead
FB2625	RBLN-A074WJZZY	AA		J	Ferrite Bead
FB2626	RBLN-A074WJZZY	AA		J	Ferrite Bead
FB2627	RBLN-A074WJZZY	AA		J	Ferrite Bead
FB2628	RBLN-A074WJZZY	AA		J	Ferrite Bead
FB2629	RBLN-A074WJZZY	AA		J	Ferrite Bead
FB2630	RBLN-A074WJZZY	AA		J	Ferrite Bead
FB2631	RBLN-A074WJZZY	AA		J	Ferrite Bead
FB2632	RBLN-A192WJZZY	AA		J	Ferrite Bead
FB2633	RBLN-A192WJZZY	AA		J	Ferrite Bead
FB2634	RBLN-A192WJZZY	AA		J	Ferrite Bead
FB2635	RBLN-A192WJZZY	AA		J	Ferrite Bead
FB2636	RBLN-A192WJZZY	AA		J	Ferrite Bead
FB2701	RBLN-A018WJZZY	AA		J	Ferrite Bead
FB2702	RBLN-A018WJZZY	AA		J	Ferrite Bead
FB2703	RBLN-A018WJZZY	AA		J	Ferrite Bead
FB2704	RBLN-A018WJZZY	AA		J	Ferrite Bead
FB2705	RBLN-A018WJZZY	AA		J	Ferrite Bead
FB2706	RBLN-A018WJZZY	AA		J	Ferrite Bead
FB2707	RBLN-A018WJZZY	AA		J	Ferrite Bead
FB2708	RBLN-A018WJZZY	AA		J	Ferrite Bead
FB2709	RBLN-A206WJZZY	AA		J	Ferrite Bead
FB2712	RBLN-A206WJZZY	AA		J	Ferrite Bead
FB3301	RBLN-A192WJZZY	AA		J	Ferrite Bead
FB3302	RBLN-A192WJZZY	AA		J	Ferrite Bead
FB3303	RBLN-A192WJZZY	AA		J	Ferrite Bead
FB3304	RBLN-A192WJZZY	AA		J	Ferrite Bead
FB3305	RBLN-A192WJZZY	AA		J	Ferrite Bead
FB3306	RBLN-A192WJZZY	AA		J	Ferrite Bead
FB3308	RBLN-A192WJZZY	AA		J	Ferrite Bead
FB4401	RBLN-A192WJZZY	AA		J	Ferrite Bead
FB4404	RBLN-A192WJZZY	AA		J	Ferrite Bead
FB4405	RBLN-A192WJZZY	AA		J	Ferrite Bead
FB9501	RBLN-A206WJZZY	AA		J	Ferrite Bead
FB9502	RBLN-A206WJZZY	AA		J	Ferrite Bead
FB9503	RBLN-A206WJZZY	AA		J	Ferrite Bead
FB9603	RBLN-A206WJZZY	AA		J	Ferrite Bead
FB9604	RBLN-A206WJZZY	AA		J	Ferrite Bead
FB9605	RBLN-A206WJZZY	AA		J	Ferrite Bead
FB9606	RBLN-A206WJZZY	AA		J	Ferrite Bead
FB9607	RBLN-A206WJZZY	AA		J	Ferrite Bead
FB9608	RBLN-A206WJZZY	AA		J	Ferrite Bead
FB9609	RBLN-A206WJZZY	AA		J	Ferrite Bead
FB9610	RBLN-A074WJZZY	AA		J	Ferrite Bead
FB9611	RBLN-A074WJZZY	AA		J	Ferrite Bead
FB9612	RBLN-A074WJZZY	AA		J	Ferrite Bead
FB9613	RBLN-A206WJZZY	AA		J	Ferrite Bead

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART DELIVERY	DESCRIPTION
[2] DKEYDF455FM01 (MAIN Unit)					
FB9616	RBLN-A074WJZZY	AA		J	Ferrite Bead
FB9617	RBLN-A206WJZZY	AA		J	Ferrite Bead
FB9619	RBLN-A074WJZZY	AA		J	Ferrite Bead
FB9620	RBLN-A074WJZZY	AA		J	Ferrite Bead
FB9621	RBLN-A074WJZZY	AA		J	Ferrite Bead
FB9622	RBLN-A192WJZZY	AA		J	Ferrite Bead
FB9634	RBLN-A074WJZZY	AA		J	Ferrite Bead
FL3301	RFiLNA119WJZZY	AC		J	Filter
FL3302	RFiLNA119WJZZY	AC		J	Filter
FL3303	RFiLNA119WJZZY	AC		J	Filter
FL3304	RFiLNA119WJZZY	AC		J	Filter
FL3501	RFiLNA119WJZZY	AC		J	Filter
FL3502	RFiLNA119WJZZY	AC		J	Filter
FL3503	RFiLNA119WJZZY	AC		J	Filter
FL3504	RFiLNA119WJZZY	AC		J	Filter
FL3505	RFiLNA119WJZZY	AC		J	Filter
FL3506	RFiLNA119WJZZY	AC		J	Filter
IC501	RH-iXD108WJQZS			J	IC 24LC21AT-I/SN
IC503	VHiT7SET08U1EY	AC		J	IC TC7SET08FU(5L,JF,T
IC504	VHiMM1506XN-1Y	AD		J	IC MM1506XNRE
IC506	VHiM3221EiP-1Y	AK		J	IC MAX3221EIPower
IC1101	VHiTC7W53U/-1Y	AF		J	IC TC7W53FU(TE12L,F)
IC1102	VHiLV4053FT-1Y	AE		J	IC TC74LVX4053FT(EL)
IC1103	VHiTCR5SB25-1Y	AD		J	IC TCR5SB25(TE85L,F)
IC1104	VHiNJ2888F5-1Y	AC		J	IC NJM2888F05(TE1)
IC1106	VHiSTV0297E-1Q		N	P	IC STV0297E
IC1107	VHiS170B50U-1Y		N	P	IC S-1170B50UC-OUJTFG
IC1501	VHiCM123408-1Y	AE		J	IC CM1234-08DE
IC1502	VHiCM123408-1Y	AE		J	IC CM1234-08DE
IC1503	VHiCM123408-1Y	AE		J	IC CM1234-08DE
IC1504	VHiSi9287+-1Q	AP		J	IC Si9287ACNU
IC1505	VHiAHC1G08W-1Y	AD		J	IC 74AHC1G08GW/G,125
IC1506	VHiCM123408-1Y	AE		J	IC CM1234-08DE
IC1508	VHiLCX04FT+-1Y	AD		J	IC TC74LCX04FT(EL,K)
IC2001	VHiS80927NM-1Y	AC		J	IC S-80927CNMC-G8XT2G
IC2002	RH-iXC786WJNJQ			J	IC R5F364A6NFB
IC2004	VHiR24002AS-1Y		N	P	IC R1EX24002ASAS0A
IC2005	VHiLCX125FT-1Y	AD		J	IC TC74LCX125FT(EL,K)
IC2006	VHiTCVHC32T-1Y	AE		J	IC TC74VHC32FT(EL)
IC2007	VHiAHC1G08W-1Y	AD		J	IC 74AHC1G08GW/G,125
IC2008	VHi7WH126FU-1Y	AE		J	IC TC7WH126FU(TE12L,F)
IC2009	VHiTC7SH00U-1Y	AC		J	IC TC7SH00FU(T5L,JF,T
IC2601	VHiHC2G66DP-1Y	AD		J	IC 74HC2G66DP,125
IC2701	VHiYSS951VZ-1Y		N	P	IC YSS951-VZE2
IC2702	VHiYDA164QZ-1Y		N	P	IC YDA164-QZE2
IC2703	VHiYDA164QZ-1Y		N	P	IC YDA164-QZE2
IC3301	VHiS170B50U-1Y		N	P	IC S-1170B50UC-OUJTFG
IC3302	Not Available	-	N	-	IC MT5391DWCJ (Please replace the MAIN PWB when it is necessary to replace this IC.)
IC3501	RH-iXC754WJQZQ	AX		J	IC H5PS1G63EFR-G7C
IC3502	RH-iXC754WJQZQ	AX		J	IC H5PS1G63EFR-G7C
IC4401	VHiLCX244FT-1Y	AE		J	IC TC74LCX244FT(EL,K)
IC4402	VHiLCX244FT-1Y	AE		J	IC TC74LCX244FT(EL,K)
IC4403	VHiLCX244FT-1Y	AE		J	IC TC74LCX244FT(EL,K)
IC4404	VHiAOZ1320C-1Y	AE		J	IC AOZ1320CI-04
IC4405	VHiMT8295AE-1Q		N	P	IC MT8295AE
IC4410	VHiS170B50U-1Y		N	P	IC S-1170B50UC-OUJTFG
IC8401	Not Available	-		-	IC K9F1208U0C-PCB0 (Please replace the MAIN PWB when it is necessary to replace this IC.)
IC8451	VHi7WH126FU-1Y	AE		J	IC TC7WH126FU(TE12L,F)
IC8452	VHiLCX157FT-1Y	AD		J	IC TC74LCX157FT(EKJ)
IC8454	VHiAHC1G08W-1Y	AD		J	IC 74AHC1G08GW/G,125
IC8455	VHiR24064AS-1Y		N	P	IC R1EX24064ASAS0A
IC9501	VHiKSZ8041T-1Y		N	P	IC KSZ8041TLI
IC9601	VHiHC2G66DP-1Y	AD		J	IC 74HC2G66DP,125
IC9603	VHiMM3141YN-1Y	AC		J	IC MM3141YNRE
IC9604	VHiMP2303A+-1Y	AF		J	IC MP2303ADN-LF-Z
IC9605	VHiMP2303A+-1Y	AF		J	IC MP2303ADN-LF-Z
IC9606	VHiMP2303A+-1Y	AF		J	IC MP2303ADN-LF-Z
IC9608	VHiMP2303A+-1Y	AF		J	IC MP2303ADN-LF-Z
IC9609	VHiTC5B33A+-1Y		N	P	IC TCR5SB33A(5LSP1,FT
IC9610	VHiPQ1LAX95-1Y	AD		J	IC PQ1LAX95MSQP
IC9612	VHiTAR5SB50-1Y	AC		J	IC TAR5SB50(TE85L,F)
J501	QJAKEA073WJZZ	AD		J	Jack
J504	QJAKJ0047CEZZ	AD		J	Jack
J505	QJAKMA002WJZZ	AE		J	Jack
J3301	QSOCZA205WJQZ		N	P	Jack
J9501	QJAKZA081WJQZ		N	P	Jack
L502	VPCEM100MR70NY	AC		J	Coil Peaking 10μH
L504	VPMTN1R8JR54NY		N	P	Coil Peaking 1.8μH
L1102	VPCEM2R2MR23NY	AC		J	Coil Peaking 2.2μH
L1103	VPCEM100MR70NY	AC		J	Coil Peaking 10μH
L1501	RCiLFA228WJZZY	AD		J	Coil
L1502	RCiLFA228WJZZY	AD		J	Coil
L1503	RCiLFA228WJZZY	AD		J	Coil

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART DELIVERY	DESCRIPTION
[2] DKEYDF455FM01 (MAIN Unit)					
L1504	RCiLFA228WJZZY	AD		J	Coil
L2601	RCiLFA119WJZZY	AE		J	Coil
L2602	RCiLFA119WJZZY	AE		J	Coil
L2603	RCiLFA119WJZZY	AE		J	Coil
L2604	RCiLFA119WJZZY	AE		J	Coil
L2605	RCiLFA119WJZZY	AE		J	Coil
L2606	RCiLFA119WJZZY	AE		J	Coil
L2701	RCiLPA888WJZZY	AG		J	Coil
L2702	RCiLPA888WJZZY	AG		J	Coil
L2703	RCiLPA888WJZZY	AG		J	Coil
L2704	RCiLPA888WJZZY	AG		J	Coil
L2705	RCiLPA886WJZZY	AD		J	Coil
L2706	RCiLPA886WJZZY	AD		J	Coil
L3301	RCiLFA228WJZZY	AD		J	Coil
L9501	RCiLFA279WJZZY	AC		J	Coil
L9502	RCiLFA279WJZZY	AC		J	Coil
L9602	RCiLPB016WJQZY	AC		J	Coil
L9604	RCiLPB016WJQZY	AC		J	Coil
L9605	RCiLPB012WJQZY		N	P	Coil
L9606	RCiLPB014WJQZY	AC		J	Coil
LUG9601	QLUGHA022WJZZY		N	P	Lug
LUG9602	QLUGHA022WJZZY		N	P	Lug
LUG9603	QLUGHA022WJZZY		N	P	Lug
LUG9604	QLUGHA022WJZZY		N	P	Lug
LUG9605	QLUGHA022WJZZY		N	P	Lug
LUG9607	QLUGHA022WJZZY		N	P	Lug
LUG9608	QLUGHA022WJZZY		N	P	Lug
P2005	QPLGNA335WJZZY	AD		J	Plug
P2006	QPLGNA323WJZZY	AC		J	Plug
P2601	QCNCWA671WJQZY	AH		J	Plug
P2701	QPLGNA161WJZZY	AE		J	Plug
P2702	QPLGNA158WJZZY	AD		J	Plug
P9601	QPLGNA168WJZZY	AF		J	Plug
P9602	QPLGNA329WJZZY	AD		J	Plug
Q502	VSIMH23T110-1Y	AC		J	Transistor IMH23T110
Q505	VSRT1N141U/-1Y	AB		J	Transistor RT1N141U-T111-1
Q506	VSIMH23T110-1Y	AC		J	Transistor IMH23T110
Q1103	VSRT1N141U/-1Y	AB		J	Transistor RT1N141U-T111-1
Q1104	VS2SC3928AR-1Y	AB		J	Transistor 2SC3928A-T112-1R
Q1105	VS2SC3928AR-1Y	AB		J	Transistor 2SC3928A-T112-1R
Q1106	VS2SA1530AR-1Y	AB		J	Transistor 2SA1530A-T112-1R
Q1501	VSRT1N141U/-1Y	AB		J	Transistor RT1N141U-T111-1
Q1508	VS2SA2061+-1Y		N	P	Transistor 2SA2061(TE85L,F)
Q1509	VSRT1N141U/-1Y	AB		J	Transistor RT1N141U-T111-1
Q2002	VSRN4982///-1Y	AB		J	Transistor RN4982(TE85L,F)
Q2003	VSRN4982///-1Y	AB		J	Transistor RN4982(TE85L,F)
Q2005	VSRT1N141U/-1Y	AB		J	Transistor RT1N141U-T111-1
Q2006	VSRT1N141U/-1Y	AB		J	Transistor RT1N141U-T111-1
Q2008	VSRN4982///-1Y	AB		J	Transistor RN4982(TE85L,F)
Q2009	VSHN7G04FUA-1Y	AB		J	Transistor HN7G04FU-A(TE85L,F)
Q2603	VSRT1N141U/-1Y	AB		J	Transistor RT1N141U-T111-1
Q2701	VSRT1N141U/-1Y	AB		J	Transistor RT1N141U-T111-1
Q3301	VSRN4982///-1Y	AB		J	Transistor RN4982(TE85L,F)
Q4401	VSRT1N141U/-1Y	AB		J	Transistor RT1N141U-T111-1
Q9601	VSRN4982///-1Y	AB		J	Transistor RN4982(TE85L,F)
Q9604	VSHN7G04FUA-1Y	AB		J	Transistor HN7G04FU-A(TE85L,F)
Q9607	VS2SC3928AR-1Y	AB		J	Transistor 2SC3928A-T112-1R
Q9609	VSRT1P241U/-1Y	AB		J	Transistor RT1P241U-T11-1
R504	VRS-CZ1JF103JY	AA		J	Resistor 10k 1/16W Metal Oxide
R505	VRS-TQ2EF750JY	AA		J	Resistor 75 1/4W Metal Oxide
R506	VRS-TQ2EF750JY	AA		J	Resistor 75 1/4W Metal Oxide
R507	VRS-TQ2EF750JY	AA		J	Resistor 75 1/4W Metal Oxide
R508	VRS-CZ1JF333JY	AA		J	Resistor 33k 1/16W Metal Oxide
R511	VRS-CZ1JF102JY	AA		J	Resistor 1k 1/16W Metal Oxide
R512	VRS-CZ1JF102JY	AA		J	Resistor 1k 1/16W Metal Oxide
R514	VRS-CZ1JF104JY	AA		J	Resistor 100k 1/16W Metal Oxide
R516	VRS-TQ2EF101JY	AA		J	Resistor 100 1/4W Metal Oxide
R517	VRS-CZ1JF104JY	AA		J	Resistor 100k 1/16W Metal Oxide
R518	VRS-TQ2EF680JY	AA		J	Resistor 68 1/4W Metal Oxide
R522	VRS-CZ1JF221JY	AA		J	Resistor 220 1/16W Metal Oxide
R523	VRS-CZ1JF102JY	AA		J	Resistor 1k 1/16W Metal Oxide
R524	VRS-CZ1JF102JY	AA		J	Resistor 1k 1/16W Metal Oxide
R530	VRS-TQ2EF750JY	AA		J	Resistor 75 1/4W Metal Oxide
R533	VRS-CZ1JF221JY	AA		J	Resistor 220 1/16W Metal Oxide
R535	VRS-TQ2EF750JY	AA		J	Resistor 75 1/4W Metal Oxide
R537	VRS-TQ2EF750JY	AA		J	Resistor 75 1/4W Metal Oxide
R541	VRS-TQ2EF750JY	AA		J	Resistor 75 1/4W Metal Oxide
R544	VRS-TQ2EF750JY	AA		J	Resistor 75 1/4W Metal Oxide
R547	VRK-SB1FF101JY	AA		J	Resistor 100 1/32W Metal Composition
R549	VRS-CZ1JF102JY	AA		J	Resistor 1k 1/16W Metal Oxide
R551	VRS-CZ1JF102JY	AA		J	Resistor 1k 1/16W Metal Oxide
R552	VRS-TV1JD221JY	AA		J	Resistor 220 1/10W Metal Oxide
R553	VRS-TV1JD221JY	AA		J	Resistor 220 1/10W Metal Oxide
R554	VRS-CZ1JF104JY	AA		J	Resistor 100k 1/16W Metal Oxide
R555	VRS-CZ1JF104JY	AA		J	Resistor 100k 1/16W Metal Oxide

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART DELIVERY	DESCRIPTION
[2] DKEYDF455FM01 (MAIN Unit)					
R564	VRS-CZ1JF102JY	AA		J	Resistor 1k 1/16W Metal Oxide
R565	VRS-CZ1JF102JY	AA		J	Resistor 1k 1/16W Metal Oxide
R567	VRS-CZ1JF104JY	AA		J	Resistor 100k 1/16W Metal Oxide
R568	VRS-CZ1JF104JY	AA		J	Resistor 100k 1/16W Metal Oxide
R569	VRS-CZ1JF564JY	AB		J	Resistor 560k 1/16W Metal Oxide
R571	VRS-CZ1JF564JY	AB		J	Resistor 560k 1/16W Metal Oxide
R588	VRS-CZ1JF102JY	AA		J	Resistor 1k 1/16W Metal Oxide
R590	VRS-TW2ED101JY	AA		J	Resistor 100 1/4W Metal Oxide
R591	VRS-CZ1JF104JY	AA		J	Resistor 100k 1/16W Metal Oxide
R592	VRS-CZ1JF101JY	AA		J	Resistor 100 1/16W Metal Oxide
R593	VRS-TW2ED101JY	AA		J	Resistor 100 1/4W Metal Oxide
R594	VRS-CZ1JF104JY	AA		J	Resistor 100k 1/16W Metal Oxide
R599	VRS-TQ2EF750JY	AA		J	Resistor 75 1/4W Metal Oxide
R600	VRS-CZ1JF104JY	AA		J	Resistor 100k 1/16W Metal Oxide
R601	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R602	VRS-CZ1JF473JY	AA		J	Resistor 47k 1/16W Metal Oxide
R603	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R604	VRS-CZ1JF103JY	AA		J	Resistor 10k 1/16W Metal Oxide
R605	VRS-CZ1JF104JY	AA		J	Resistor 100k 1/16W Metal Oxide
R606	VRS-TW2ED101JY	AA		J	Resistor 100 1/4W Metal Oxide
R607	VRS-TW2ED101JY	AA		J	Resistor 100 1/4W Metal Oxide
R608	VRS-TV1JD101JY	AA		J	Resistor 100 1/10W Metal Oxide
R609	VRS-TV1JD101JY	AA		J	Resistor 100 1/10W Metal Oxide
R613	VRS-TV1JD101JY	AA		J	Resistor 100 1/10W Metal Oxide
R620	VRS-CZ1JF103JY	AA		J	Resistor 10k 1/16W Metal Oxide
R623	VRS-CZ1JF472JY	AA		J	Resistor 4.7k 1/16W Metal Oxide
R625	VRS-CZ1JF102JY	AA		J	Resistor 1k 1/16W Metal Oxide
R632	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R633	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R634	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R636	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R637	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R639	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R654	VRS-CZ1JF472JY	AA		J	Resistor 4.7k 1/16W Metal Oxide
R655	VRS-CZ1JF472JY	AA		J	Resistor 4.7k 1/16W Metal Oxide
R656	VRS-CZ1JF331JY	AA		J	Resistor 330 1/16W Metal Oxide
R657	VRS-CZ1JF331JY	AA		J	Resistor 330 1/16W Metal Oxide
R658	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R662	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R663	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R665	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R1103	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R1104	VRS-CZ1JF472JY	AA		J	Resistor 4.7k 1/16W Metal Oxide
R1105	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R1106	VRS-CZ1JF151JY	AA		J	Resistor 150 1/16W Metal Oxide
R1107	VRS-CZ1JF471JY	AA		J	Resistor 470 1/16W Metal Oxide
R1109	VRS-CZ1JF471JY	AA		J	Resistor 470 1/16W Metal Oxide
R1110	VRS-CZ1JF103JY	AA		J	Resistor 10k 1/16W Metal Oxide
R1112	VRS-CZ1JF103JY	AA		J	Resistor 10k 1/16W Metal Oxide
R1113	VRS-CZ1JF392JY	AA		J	Resistor 3.9k 1/16W Metal Oxide
R1115	VRS-CZ1JF391JY	AA		J	Resistor 390 1/16W Metal Oxide
R1116	VRS-CZ1JF151JY	AA		J	Resistor 150 1/16W Metal Oxide
R1117	VRS-CZ1JF103JY	AA		J	Resistor 10k 1/16W Metal Oxide
R1118	VRS-CZ1JF103JY	AA		J	Resistor 10k 1/16W Metal Oxide
R1119	VRS-CZ1JF100JY	AA		J	Resistor 10 1/16W Metal Oxide
R1121	VRS-CZ1JF391JY	AA		J	Resistor 390 1/16W Metal Oxide
R1125	VRK-SB1FF000JY	AA		J	Resistor 0 1/32W Metal Composition
R1126	VRK-SB1FF221JY		N	P	Resistor 220 1/32W Metal Composition
R1127	VRS-CZ1JF103JY	AA		J	Resistor 10k 1/16W Metal Oxide
R1129	VRK-SA1JF222JY	AB		J	Resistor 2.2k 1/16W Metal Composition
R1130	VRK-SB1FF220JY	AA		J	Resistor 22 1/32W Metal Composition
R1132	VRS-CZ1JF103JY	AA		J	Resistor 10k 1/16W Metal Oxide
R1136	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R1137	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R1140	VRS-CZ1JF102JY	AA		J	Resistor 1k 1/16W Metal Oxide
R1141	VRK-SB1FF220JY	AA		J	Resistor 22 1/32W Metal Composition
R1142	VRK-SB1FF220JY	AA		J	Resistor 22 1/32W Metal Composition
R1143	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R1144	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R1145	VRS-CZ1JF151JY	AA		J	Resistor 150 1/16W Metal Oxide
R1146	VRS-CZ1JF102JY	AA		J	Resistor 1k 1/16W Metal Oxide
R1147	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R1148	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R1156	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R1157	VRS-CZ1JF100JY	AA		J	Resistor 10 1/16W Metal Oxide
R1501	VRS-CZ1JF473JY	AA		J	Resistor 47k 1/16W Metal Oxide
R1502	VRS-CZ1JF181JY	AA		J	Resistor 180 1/16W Metal Oxide
R1507	VRS-CZ1JF273JY	AA		J	Resistor 27k 1/16W Metal Oxide
R1509	VRS-CZ1JF472JY	AA		J	Resistor 4.7k 1/16W Metal Oxide
R1511	VRS-CZ1JF560JY	AA		J	Resistor 56 1/16W Metal Oxide
R1512	VRK-SB1FF473JY	AB		J	Resistor 47k 1/32W Metal Composition
R1514	VRS-CZ1JF103JY	AA		J	Resistor 10k 1/16W Metal Oxide
R1515	VRS-CZ1JF101JY	AA		J	Resistor 100 1/16W Metal Oxide
R1516	VRS-CZ1JF473JY	AA		J	Resistor 47k 1/16W Metal Oxide
R1517	VRS-CZ1JF103JY	AA		J	Resistor 10k 1/16W Metal Oxide

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART DELIVERY	DESCRIPTION
[2] DKEYDF455FM01 (MAIN Unit)					
R1527	VRS-CZ1JF103JY	AA		J	Resistor 10k 1/16W Metal Oxide
R1531	VRS-CZ1JF103JY	AA		J	Resistor 10k 1/16W Metal Oxide
R1536	VRK-SB1FF100JY	AA		J	Resistor 10 1/32W Metal Composition
R1541	VRK-SB1FF100JY	AA		J	Resistor 10 1/32W Metal Composition
R1542	VRS-CZ1JF332JY	AA		J	Resistor 3.3k 1/16W Metal Oxide
R1543	VRK-SA1JF100JY	AB		J	Resistor 10 1/16W Metal Composition
R1551	VRS-CZ1JF332JY	AA		J	Resistor 3.3k 1/16W Metal Oxide
R1552	VRS-CZ1JF100JY	AA		J	Resistor 10 1/16W Metal Oxide
R1553	VRS-CZ1JF332JY	AA		J	Resistor 3.3k 1/16W Metal Oxide
R1554	VRS-CZ1JF332JY	AA		J	Resistor 3.3k 1/16W Metal Oxide
R1555	VRS-CZ1JF100JY	AA		J	Resistor 10 1/16W Metal Oxide
R1556	VRS-CZ1JF100JY	AA		J	Resistor 10 1/16W Metal Oxide
R1557	VRS-CZ1JF100JY	AA		J	Resistor 10 1/16W Metal Oxide
R1558	VRS-CZ1JF331JY	AA		J	Resistor 330 1/16W Metal Oxide
R1561	VRK-SB1FF473JY	AB		J	Resistor 47k 1/32W Metal Composition
R1567	VRS-CZ1JF473JY	AA		J	Resistor 47k 1/16W Metal Oxide
R1568	VRS-CZ1JF473JY	AA		J	Resistor 47k 1/16W Metal Oxide
R1569	VRS-CZ1JF103JY	AA		J	Resistor 10k 1/16W Metal Oxide
R1582	VRK-SA1JF100JY	AB		J	Resistor 10 1/16W Metal Composition
R1584	VRS-CZ1JF100JY	AA		J	Resistor 10 1/16W Metal Oxide
R1586	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R1587	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R1589	VRS-CZ1JF102JY	AA		J	Resistor 1k 1/16W Metal Oxide
R1595	VRS-CZ1JF102JY	AA		J	Resistor 1k 1/16W Metal Oxide
R2001	VRS-CZ1JF101JY	AA		J	Resistor 100 1/16W Metal Oxide
R2002	VRS-CZ1JF104JY	AA		J	Resistor 100k 1/16W Metal Oxide
R2003	VRS-CZ1JF102JY	AA		J	Resistor 1k 1/16W Metal Oxide
R2004	VRS-CZ1JF103JY	AA		J	Resistor 10k 1/16W Metal Oxide
R2005	VRS-CZ1JF102JY	AA		J	Resistor 1k 1/16W Metal Oxide
R2007	VRS-CZ1JF472JY	AA		J	Resistor 4.7k 1/16W Metal Oxide
R2008	VRS-CZ1JF102JY	AA		J	Resistor 1k 1/16W Metal Oxide
R2009	VRS-CZ1JF102JY	AA		J	Resistor 1k 1/16W Metal Oxide
R2010	VRS-CZ1JF333JY	AA		J	Resistor 33k 1/16W Metal Oxide
R2011	VRS-CZ1JF472JY	AA		J	Resistor 4.7k 1/16W Metal Oxide
R2012	VRK-SB1FF000JY	AA		J	Resistor 0 1/32W Metal Composition
R2014	VRS-CZ1JF472JY	AA		J	Resistor 4.7k 1/16W Metal Oxide
R2015	VRK-SA1JF100JY	AB		J	Resistor 10 1/16W Metal Composition
R2016	VRS-CZ1JF103JY	AA		J	Resistor 10k 1/16W Metal Oxide
R2017	VRS-CZ1JF103JY	AA		J	Resistor 10k 1/16W Metal Oxide
R2018	VRS-CZ1JF103JY	AA		J	Resistor 10k 1/16W Metal Oxide
R2019	VRS-CZ1JF103JY	AA		J	Resistor 10k 1/16W Metal Oxide
R2020	VRS-CZ1JF103JY	AA		J	Resistor 10k 1/16W Metal Oxide
R2021	VRS-CZ1JF104JY	AA		J	Resistor 100k 1/16W Metal Oxide
R2022	VRS-CZ1JF333JY	AA		J	Resistor 33k 1/16W Metal Oxide
R2023	VRS-CZ1JF473JY	AA		J	Resistor 47k 1/16W Metal Oxide
R2024	VRS-CZ1JF102FY	AA		J	Resistor 1k 1/16W Metal Oxide
R2025	VRS-CZ1JF103JY	AA		J	Resistor 10k 1/16W Metal Oxide
R2026	VRS-CZ1JF103JY	AA		J	Resistor 10k 1/16W Metal Oxide
R2028	VRS-CZ1JF103JY	AA		J	Resistor 10k 1/16W Metal Oxide
R2029	VRS-CZ1JF103JY	AA		J	Resistor 10k 1/16W Metal Oxide
R2030	VRS-CZ1JF472JY	AA		J	Resistor 4.7k 1/16W Metal Oxide
R2031	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R2032	VRS-CZ1JF223JY	AA		J	Resistor 22k 1/16W Metal Oxide
R2033	VRS-CZ1JF101JY	AA		J	Resistor 100 1/16W Metal Oxide
R2034	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R2035	VRS-CZ1JF333JY	AA		J	Resistor 33k 1/16W Metal Oxide
R2036	VRS-CZ1JF105JY	AA		J	Resistor 1M 1/16W Metal Oxide
R2038	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R2039	VRS-CZ1JF101JY	AA		J	Resistor 100 1/16W Metal Oxide
R2044	VRS-CZ1JF100JY	AA		J	Resistor 10 1/16W Metal Oxide
R2045	VRS-CZ1JF106JY	AA		J	Resistor 10M 1/16W Metal Oxide
R2047	VRS-CZ1JF101JY	AA		J	Resistor 100 1/16W Metal Oxide
R2048	VRS-CZ1JF472JY	AA		J	Resistor 4.7k 1/16W Metal Oxide
R2050	VRS-CZ1JF101JY	AA		J	Resistor 100 1/16W Metal Oxide
R2051	VRK-SA1JF100JY	AB		J	Resistor 10 1/16W Metal Composition
R2052	VRS-CZ1JF223JY	AA		J	Resistor 22k 1/16W Metal Oxide
R2053	VRS-CZ1JF394JY	AA		J	Resistor 390k 1/16W Metal Oxide
R2056	VRS-CZ1JF103JY	AA		J	Resistor 10k 1/16W Metal Oxide
R2057	VRS-CZ1JF103JY	AA		J	Resistor 10k 1/16W Metal Oxide
R2058	VRS-CZ1JF100JY	AA		J	Resistor 10 1/16W Metal Oxide
R2060	VRK-SB1FF103JY	AA		J	Resistor 10k 1/32W Metal Composition
R2064	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R2066	VRK-SA1JF100JY	AB		J	Resistor 10 1/16W Metal Composition
R2068	VRS-CZ1JF103JY	AA		J	Resistor 10k 1/16W Metal Oxide
R2070	VRS-CZ1JF100JY	AA		J	Resistor 10 1/16W Metal Oxide
R2071	VRS-CZ1JF100JY	AA		J	Resistor 10 1/16W Metal Oxide
R2072	VRS-CZ1JF104JY	AA		J	Resistor 100k 1/16W Metal Oxide
R2074	VRS-CZ1JF101JY	AA		J	Resistor 100 1/16W Metal Oxide
R2076	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R2077	VRS-CZ1JF101JY	AA		J	Resistor 100 1/16W Metal Oxide
R2079	VRS-CZ1JF103JY	AA		J	Resistor 10k 1/16W Metal Oxide
R2080	VRS-CZ1JF103JY	AA		J	Resistor 10k 1/16W Metal Oxide
R2084	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R2085	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R2088	VRS-CZ1JF103JY	AA		J	Resistor 10k 1/16W Metal Oxide

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART DELIVERY	DESCRIPTION
[2] DKEYDF455FM01 (MAIN Unit)					
R2089	VRS-CZ1JF223JY	AA		J	Resistor 22k 1/16W Metal Oxide
R2090	VRS-CZ1JF472JY	AA		J	Resistor 4.7k 1/16W Metal Oxide
R2091	VRS-CZ1JF103JY	AA		J	Resistor 10k 1/16W Metal Oxide
R2093	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R2094	VRS-CZ1JF222JY	AA		J	Resistor 2.2k 1/16W Metal Oxide
R2095	VRK-SA1JF222JY	AB		J	Resistor 2.2k 1/16W Metal Composition
R2096	VRS-CZ1JF272JY	AA		J	Resistor 2.7k 1/16W Metal Oxide
R2613	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R2620	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R2635	VRS-CZ1JF103JY	AA		J	Resistor 10k 1/16W Metal Oxide
R2636	VRS-CZ1JF105JY	AA		J	Resistor 1M 1/16W Metal Oxide
R2639	VRS-CZ1JF104JY	AA		J	Resistor 100k 1/16W Metal Oxide
R2641	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R2642	VRS-CZ1JF103JY	AA		J	Resistor 10k 1/16W Metal Oxide
R2645	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R2701	VRK-SA1JF100JY	AB		J	Resistor 10 1/16W Metal Composition
R2702	VRS-CZ1JF821JY	AA		J	Resistor 820 1/16W Metal Oxide
R2703	VRS-CZ1JF105JY	AA		J	Resistor 1M 1/16W Metal Oxide
R2704	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R2705	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R2706	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R2707	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R2708	VRS-CZ1JF472JY	AA		J	Resistor 4.7k 1/16W Metal Oxide
R2709	VRS-CZ1JF472JY	AA		J	Resistor 4.7k 1/16W Metal Oxide
R2710	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R2714	VRS-CZ1JF472JY	AA		J	Resistor 4.7k 1/16W Metal Oxide
R2715	VRS-CZ1JF472JY	AA		J	Resistor 4.7k 1/16W Metal Oxide
R2716	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R2717	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R2718	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R2719	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R2720	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R2725	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R2726	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R2727	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R2728	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R2729	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R2730	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R2731	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R2732	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R2733	VRS-CZ1JF103JY	AA		J	Resistor 10k 1/16W Metal Oxide
R2734	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R2735	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R2736	VRS-CZ1JF103JY	AA		J	Resistor 10k 1/16W Metal Oxide
R2738	VRS-CZ1JF564JY	AB		J	Resistor 560k 1/16W Metal Oxide
R2739	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R2740	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R2741	VRS-CZ1JF224JY	AA		J	Resistor 220k 1/16W Metal Oxide
R2742	VRS-CZ1JF224JY	AA		J	Resistor 220k 1/16W Metal Oxide
R2743	VRS-CZ1JF564JY	AB		J	Resistor 560k 1/16W Metal Oxide
R2744	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R2745	VRS-CZ1JF103JY	AA		J	Resistor 10k 1/16W Metal Oxide
R2746	VRS-CZ1JF224JY	AA		J	Resistor 220k 1/16W Metal Oxide
R2748	VRS-CZ1JF473JY	AA		J	Resistor 47k 1/16W Metal Oxide
R2749	VRS-CZ1JF103JY	AA		J	Resistor 10k 1/16W Metal Oxide
R2750	VRS-TQ2EF000JY	AB		J	Resistor 0 1/4W Metal Oxide
R2751	VRS-CZ1JF473JY	AA		J	Resistor 47k 1/16W Metal Oxide
R2752	VRS-CZ1JF153JY	AA		J	Resistor 15k 1/16W Metal Oxide
R2753	VRS-TQ2EF000JY	AB		J	Resistor 0 1/4W Metal Oxide
R2756	VRS-CZ1JF563JY	AA		J	Resistor 56k 1/16W Metal Oxide
R2757	VRS-CZ1JF473JY	AA		J	Resistor 47k 1/16W Metal Oxide
R2758	VRS-CZ1JF473JY	AA		J	Resistor 47k 1/16W Metal Oxide
R2759	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R2760	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R2761	VRS-TQ2EF000JY	AB		J	Resistor 0 1/4W Metal Oxide
R2762	VRS-TQ2EF000JY	AB		J	Resistor 0 1/4W Metal Oxide
R2769	VRS-CZ1JF473JY	AA		J	Resistor 47k 1/16W Metal Oxide
R2770	VRS-CZ1JF100JY	AA		J	Resistor 10 1/16W Metal Oxide
R2771	VRS-CZ1JF473JY	AA		J	Resistor 47k 1/16W Metal Oxide
R2779	VRS-CZ1JF473JY	AA		J	Resistor 47k 1/16W Metal Oxide
R2781	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R2782	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R2784	VRS-CZ1JF103JY	AA		J	Resistor 10k 1/16W Metal Oxide
R3301	VRS-CZ1JF472JY	AA		J	Resistor 4.7k 1/16W Metal Oxide
R3302	VRS-CZ1JF472JY	AA		J	Resistor 4.7k 1/16W Metal Oxide
R3305	VRS-CZ1JF101JY	AA		J	Resistor 100 1/16W Metal Oxide
R3306	VRS-CZ1JF472JY	AA		J	Resistor 4.7k 1/16W Metal Oxide
R3307	VRS-CZ1JF103JY	AA		J	Resistor 10k 1/16W Metal Oxide
R3309	VRS-CZ1JF222JY	AA		J	Resistor 2.2k 1/16W Metal Oxide
R3318	VRS-CZ1JF472JY	AA		J	Resistor 4.7k 1/16W Metal Oxide
R3319	VRS-CZ1JF101JY	AA		J	Resistor 100 1/16W Metal Oxide
R3320	VRS-CZ1JF103JY	AA		J	Resistor 10k 1/16W Metal Oxide
R3321	VRS-CZ1JF131FY	AB		J	Resistor 130 1/16W Metal Oxide
R3322	VRS-CZ1JF100JY	AA		J	Resistor 10 1/16W Metal Oxide
R3323	VRS-CZ1JF512FY	AA		J	Resistor 5.1k 1/16W Metal Oxide

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART DELIVERY	DESCRIPTION
[2] DKEYDF455FM01 (MAIN Unit)					
R3324	VRK-SB1FF470JY	AA		J	Resistor 47 1/32W Metal Composition
R3326	VRS-CZ1JF470JY	AA		J	Resistor 47 1/16W Metal Oxide
R3327	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R3328	VRK-SB1FF102JY	AC		J	Resistor 1k 1/32W Metal Composition
R3329	VRK-SA1JF222JY	AB		J	Resistor 2.2k 1/16W Metal Composition
R3331	VRK-SB1FF102JY	AC		J	Resistor 1k 1/32W Metal Composition
R3332	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R3333	VRS-CZ1JF561JY	AA		J	Resistor 560 1/16W Metal Oxide
R3334	VRS-CZ1JF472JY	AA		J	Resistor 4.7k 1/16W Metal Oxide
R3335	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R3336	VRS-CZ1JF472JY	AA		J	Resistor 4.7k 1/16W Metal Oxide
R3337	VRS-CZ1JF472JY	AA		J	Resistor 4.7k 1/16W Metal Oxide
R3338	VRS-CZ1JF470JY	AA		J	Resistor 47 1/16W Metal Oxide
R3339	VRS-CZ1JF470JY	AA		J	Resistor 47 1/16W Metal Oxide
R3342	VRS-CZ1JF105JY	AA		J	Resistor 1M 1/16W Metal Oxide
R3343	VRS-CZ1JF472JY	AA		J	Resistor 4.7k 1/16W Metal Oxide
R3345	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R3346	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R3348	VRS-CZ1JF472JY	AA		J	Resistor 4.7k 1/16W Metal Oxide
R3350	VRS-CZ1JF472JY	AA		J	Resistor 4.7k 1/16W Metal Oxide
R3351	VRS-CZ1JF390JY	AA		J	Resistor 39 1/16W Metal Oxide
R3352	VRS-CZ1JF390JY	AA		J	Resistor 39 1/16W Metal Oxide
R3353	VRS-CZ1JF303JY	AA		J	Resistor 30k 1/16W Metal Oxide
R3354	VRS-CZ1JF303JY	AA		J	Resistor 30k 1/16W Metal Oxide
R3355	VRS-CZ1JF303JY	AA		J	Resistor 30k 1/16W Metal Oxide
R3356	VRS-CZ1JF303JY	AA		J	Resistor 30k 1/16W Metal Oxide
R3357	VRS-CZ1JF303JY	AA		J	Resistor 30k 1/16W Metal Oxide
R3358	VRS-CZ1JF303JY	AA		J	Resistor 30k 1/16W Metal Oxide
R3366	VRS-CZ1JF680JY	AB		J	Resistor 68 1/16W Metal Oxide
R3367	VRS-CZ1JF680JY	AB		J	Resistor 68 1/16W Metal Oxide
R3368	VRS-CZ1JF680JY	AB		J	Resistor 68 1/16W Metal Oxide
R3369	VRS-CZ1JF101JY	AA		J	Resistor 100 1/16W Metal Oxide
R3370	VRS-CZ1JF101JY	AA		J	Resistor 100 1/16W Metal Oxide
R3371	VRS-CZ1JF101JY	AA		J	Resistor 100 1/16W Metal Oxide
R3372	VRS-CZ1JF680JY	AB		J	Resistor 68 1/16W Metal Oxide
R3373	VRS-CZ1JF680JY	AB		J	Resistor 68 1/16W Metal Oxide
R3374	VRS-CZ1JF680JY	AB		J	Resistor 68 1/16W Metal Oxide
R3375	VRS-CZ1JF101JY	AA		J	Resistor 100 1/16W Metal Oxide
R3376	VRS-CZ1JF101JY	AA		J	Resistor 100 1/16W Metal Oxide
R3377	VRS-CZ1JF101JY	AA		J	Resistor 100 1/16W Metal Oxide
R3382	VRS-CZ1JF101JY	AA		J	Resistor 100 1/16W Metal Oxide
R3383	VRS-CZ1JF101JY	AA		J	Resistor 100 1/16W Metal Oxide
R3384	VRS-CZ1JF101JY	AA		J	Resistor 100 1/16W Metal Oxide
R3389	VRS-CZ1JF101JY	AA		J	Resistor 100 1/16W Metal Oxide
R3390	VRS-CZ1JF472JY	AA		J	Resistor 4.7k 1/16W Metal Oxide
R3395	VRS-CZ1JF391JY	AA		J	Resistor 390 1/16W Metal Oxide
R3399	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R3400	VRS-CZ1JF100JY	AA		J	Resistor 10 1/16W Metal Oxide
R3401	VRS-CZ1JF472JY	AA		J	Resistor 4.7k 1/16W Metal Oxide
R3402	VRS-CZ1JF470JY	AA		J	Resistor 47 1/16W Metal Oxide
R3403	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R3501	VRK-SA1JF000JY	AB		J	Resistor 0 1/16W Metal Composition
R3502	VRK-SA1JF000JY	AB		J	Resistor 0 1/16W Metal Composition
R3503	VRK-SB1FF100JY	AA		J	Resistor 10 1/32W Metal Composition
R3504	VRK-SB1FF100JY	AA		J	Resistor 10 1/32W Metal Composition
R3505	VRK-SB1FF100JY	AA		J	Resistor 10 1/32W Metal Composition
R3506	VRK-SB1FF100JY	AA		J	Resistor 10 1/32W Metal Composition
R3507	VRK-SB1FF100JY	AA		J	Resistor 10 1/32W Metal Composition
R3508	VRK-SB1FF100JY	AA		J	Resistor 10 1/32W Metal Composition
R3509	VRS-CZ1JF102FY	AA		J	Resistor 1k 1/16W Metal Oxide
R3510	VRS-CZ1JF102FY	AA		J	Resistor 1k 1/16W Metal Oxide
R3511	VRS-CZ1JF101JY	AA		J	Resistor 100 1/16W Metal Oxide
R3512	VRS-CZ1JF101JY	AA		J	Resistor 100 1/16W Metal Oxide
R4404	VRS-CZ1JF103JY	AA		J	Resistor 10k 1/16W Metal Oxide
R4405	VRS-CZ1JF103JY	AA		J	Resistor 10k 1/16W Metal Oxide
R4406	VRS-CZ1JF103JY	AA		J	Resistor 10k 1/16W Metal Oxide
R4407	VRK-SB1FF000JY	AA		J	Resistor 0 1/32W Metal Composition
R4408	VRK-SB1FF000JY	AA		J	Resistor 0 1/32W Metal Composition
R4409	VRS-CZ1JF470JY	AA		J	Resistor 47 1/16W Metal Oxide
R4410	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R4411	VRK-SB1FF470JY	AA		J	Resistor 47 1/32W Metal Composition
R4413	VRS-CZ1JF470JY	AA		J	Resistor 47 1/16W Metal Oxide
R4414	VRK-SB1FF101JY	AA		J	Resistor 100 1/32W Metal Composition
R4415	VRS-CZ1JF101JY	AA		J	Resistor 100 1/16W Metal Oxide
R4416	VRS-CZ1JF101JY	AA		J	Resistor 100 1/16W Metal Oxide
R4418	VRS-CZ1JF103JY	AA		J	Resistor 10k 1/16W Metal Oxide
R4419	VRS-CZ1JF101JY	AA		J	Resistor 100 1/16W Metal Oxide
R4420	VRS-CZ1JF103JY	AA		J	Resistor 10k 1/16W Metal Oxide
R4421	VRS-CZ1JF103JY	AA		J	Resistor 10k 1/16W Metal Oxide
R4422	VRS-CZ1JF470JY	AA		J	Resistor 47 1/16W Metal Oxide
R4423	VRS-CZ1JF470JY	AA		J	Resistor 47 1/16W Metal Oxide
R4424	VRS-CZ1JF103JY	AA		J	Resistor 10k 1/16W Metal Oxide
R4425	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R4426	VRS-CZ1JF470JY	AA		J	Resistor 47 1/16W Metal Oxide
R4427	VRS-CZ1JF101JY	AA		J	Resistor 100 1/16W Metal Oxide

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART DELIVERY	DESCRIPTION
[2] DKEYDF455FM01 (MAIN Unit)					
R4428	VRS-CZ1JF333JY	AA		J	Resistor 33k 1/16W Metal Oxide
R4429	VRS-CZ1JF103JY	AA		J	Resistor 10k 1/16W Metal Oxide
R4430	VRS-CZ1JF103JY	AA		J	Resistor 10k 1/16W Metal Oxide
R4431	VRK-SB1FF470JY	AA		J	Resistor 47 1/32W Metal Composition
R4432	VRK-SB1FF470JY	AA		J	Resistor 47 1/32W Metal Composition
R4433	VRK-SB1FF470JY	AA		J	Resistor 47 1/32W Metal Composition
R4434	VRS-CZ1JF103JY	AA		J	Resistor 10k 1/16W Metal Oxide
R4435	VRS-CZ1JF103JY	AA		J	Resistor 10k 1/16W Metal Oxide
R4436	VRS-CZ1JF103JY	AA		J	Resistor 10k 1/16W Metal Oxide
R4437	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R4438	VRS-CZ1JF103JY	AA		J	Resistor 10k 1/16W Metal Oxide
R4439	VRS-CZ1JF470JY	AA		J	Resistor 47 1/16W Metal Oxide
R4440	VRS-CZ1JF470JY	AA		J	Resistor 47 1/16W Metal Oxide
R4441	VRS-CZ1JF103JY	AA		J	Resistor 10k 1/16W Metal Oxide
R4442	VRK-SB1FF470JY	AA		J	Resistor 47 1/32W Metal Composition
R4443	VRK-SB1FF470JY	AA		J	Resistor 47 1/32W Metal Composition
R4444	VRK-SB1FF470JY	AA		J	Resistor 47 1/32W Metal Composition
R4445	VRK-SB1FF470JY	AA		J	Resistor 47 1/32W Metal Composition
R4446	VRK-SB1FF470JY	AA		J	Resistor 47 1/32W Metal Composition
R4447	VRK-SB1FF470JY	AA		J	Resistor 47 1/32W Metal Composition
R4448	VRS-CZ1JF470JY	AA		J	Resistor 47 1/16W Metal Oxide
R4449	VRS-CZ1JF470JY	AA		J	Resistor 47 1/16W Metal Oxide
R4450	VRS-CZ1JF470JY	AA		J	Resistor 47 1/16W Metal Oxide
R4451	VRS-CZ1JF105JY	AA		J	Resistor 1M 1/16W Metal Oxide
R4452	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R4453	VRS-CZ1JF472JY	AA		J	Resistor 4.7k 1/16W Metal Oxide
R4455	VRS-CZ1JF472JY	AA		J	Resistor 4.7k 1/16W Metal Oxide
R4456	VRS-CZ1JF472JY	AA		J	Resistor 4.7k 1/16W Metal Oxide
R4457	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R4458	VRK-SB1FF470JY	AA		J	Resistor 47 1/32W Metal Composition
R4459	VRS-CZ1JF470JY	AA		J	Resistor 47 1/16W Metal Oxide
R4460	VRS-CZ1JF222JY	AA		J	Resistor 2.2k 1/16W Metal Oxide
R4461	VRK-SB1FF472JY	AA		J	Resistor 4.7k 1/32W Metal Composition
R4462	VRS-CZ1JF101JY	AA		J	Resistor 100 1/16W Metal Oxide
R4463	VRS-CZ1JF101JY	AA		J	Resistor 100 1/16W Metal Oxide
R4464	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R4466	VRS-CZ1JF103JY	AA		J	Resistor 10k 1/16W Metal Oxide
R4467	VRK-SB1FF470JY	AA		J	Resistor 47 1/32W Metal Composition
R4468	VRK-SB1FF470JY	AA		J	Resistor 47 1/32W Metal Composition
R4469	VRK-SB1FF470JY	AA		J	Resistor 47 1/32W Metal Composition
R4473	VRK-SB1FF100JY	AA		J	Resistor 10 1/32W Metal Composition
R4474	VRK-SB1FF100JY	AA		J	Resistor 10 1/32W Metal Composition
R4475	VRK-SB1FF100JY	AA		J	Resistor 10 1/32W Metal Composition
R4476	VRK-SB1FF000JY	AA		J	Resistor 0 1/32W Metal Composition
R4477	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R4488	VRS-CZ1JF100JY	AA		J	Resistor 10 1/16W Metal Oxide
R4489	VRS-CZ1JF100JY	AA		J	Resistor 10 1/16W Metal Oxide
R8405	VRS-CZ1JF103JY	AA		J	Resistor 10k 1/16W Metal Oxide
R8406	VRK-SB1FF103JY	AA		J	Resistor 10k 1/32W Metal Composition
R8407	VRK-SB1FF000JY	AA		J	Resistor 0 1/32W Metal Composition
R8408	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R8409	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R8451	VRS-CZ1JF470JY	AA		J	Resistor 47 1/16W Metal Oxide
R8452	VRS-CZ1JF472JY	AA		J	Resistor 4.7k 1/16W Metal Oxide
R8453	VRS-CZ1JF472JY	AA		J	Resistor 4.7k 1/16W Metal Oxide
R8454	VRS-CZ1JF472JY	AA		J	Resistor 4.7k 1/16W Metal Oxide
R8455	VRS-CZ1JF472JY	AA		J	Resistor 4.7k 1/16W Metal Oxide
R8458	VRK-SB1FF470JY	AA		J	Resistor 47 1/32W Metal Composition
R8459	VRK-SB1FF470JY	AA		J	Resistor 47 1/32W Metal Composition
R8462	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R8463	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R8465	VRS-CZ1JF472JY	AA		J	Resistor 4.7k 1/16W Metal Oxide
R8466	VRS-CZ1JF472JY	AA		J	Resistor 4.7k 1/16W Metal Oxide
R8467	VRS-CZ1JF472JY	AA		J	Resistor 4.7k 1/16W Metal Oxide
R8468	VRS-CZ1JF472JY	AA		J	Resistor 4.7k 1/16W Metal Oxide
R8469	VRK-SB1FF472JY	AA		J	Resistor 4.7k 1/32W Metal Composition
R8472	VRK-SA1JF222JY	AB		J	Resistor 2.2k 1/16W Metal Composition
R8477	VRS-CZ1JF472JY	AA		J	Resistor 4.7k 1/16W Metal Oxide
R8478	VRS-CZ1JF472JY	AA		J	Resistor 4.7k 1/16W Metal Oxide
R8479	VRS-CZ1JF473JY	AA		J	Resistor 47k 1/16W Metal Oxide
R8480	VRK-SA1JF100JY	AB		J	Resistor 10 1/16W Metal Composition
R8481	VRS-CZ1JF332JY	AA		J	Resistor 3.3k 1/16W Metal Oxide
R8482	VRS-CZ1JF472JY	AA		J	Resistor 4.7k 1/16W Metal Oxide
R8485	VRK-SA1JF000JY	AB		J	Resistor 0 1/16W Metal Composition
R8487	VRS-CZ1JF102JY	AA		J	Resistor 1k 1/16W Metal Oxide
R9501	VRS-CZ1JF750FY	AA		J	Resistor 75 1/16W Metal Oxide
R9502	VRS-CZ1JF750FY	AA		J	Resistor 75 1/16W Metal Oxide
R9503	VRS-CZ1JF750FY	AA		J	Resistor 75 1/16W Metal Oxide
R9504	VRS-CZ1JF750FY	AA		J	Resistor 75 1/16W Metal Oxide
R9507	VRS-CZ1JF133JY	AA		J	Resistor 13k 1/16W Metal Oxide
R9508	VRS-CZ1JF133JY	AA		J	Resistor 13k 1/16W Metal Oxide
R9510	VRS-CZ1JF472JY	AA		J	Resistor 4.7k 1/16W Metal Oxide
R9511	VRS-CZ1JF472JY	AA		J	Resistor 4.7k 1/16W Metal Oxide
R9512	VRK-SB1FF000JY	AA		J	Resistor 0 1/32W Metal Composition
R9513	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART DELIVERY	DESCRIPTION
[2] DKEYDF455FM01 (MAIN Unit)					
R9514	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R9515	VRS-CZ1JF220JY	AA		J	Resistor 22 1/16W Metal Oxide
R9516	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R9517	VRS-CZ1JF220JY	AA		J	Resistor 22 1/16W Metal Oxide
R9518	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R9519	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R9520	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R9521	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R9522	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R9523	VRK-SB1FF000JY	AA		J	Resistor 0 1/32W Metal Composition
R9524	VRS-CZ1JF510FY	AA		J	Resistor 51 1/16W Metal Oxide
R9525	VRS-CZ1JF510FY	AA		J	Resistor 51 1/16W Metal Oxide
R9526	VRS-CZ1JF510FY	AA		J	Resistor 51 1/16W Metal Oxide
R9527	VRS-CZ1JF510FY	AA		J	Resistor 51 1/16W Metal Oxide
R9601	VRS-CZ1JF103JY	AA		J	Resistor 10k 1/16W Metal Oxide
R9602	VRS-CZ1JF103JY	AA		J	Resistor 10k 1/16W Metal Oxide
R9607	VRS-CZ1JF102JY	AA		J	Resistor 1k 1/16W Metal Oxide
R9610	VRS-CZ1JF472JY	AA		J	Resistor 4.7k 1/16W Metal Oxide
R9615	VRS-CZ1JF472JY	AA		J	Resistor 4.7k 1/16W Metal Oxide
R9616	VRS-CZ1JF103JY	AA		J	Resistor 10k 1/16W Metal Oxide
R9620	VRS-CZ1JF272FY	AA		J	Resistor 2.7k 1/16W Metal Oxide
R9621	VRS-CZ1JF103FY	AB		J	Resistor 10k 1/16W Metal Oxide
R9623	VRS-CZ1JF393JY	AA		J	Resistor 39k 1/16W Metal Oxide
R9626	VRS-CZ1JF101JY	AA		J	Resistor 100 1/16W Metal Oxide
R9627	VRS-CZ1JF562JY	AA		J	Resistor 5.6k 1/16W Metal Oxide
R9628	VRS-CZ1JF473FY	AA		J	Resistor 47k 1/16W Metal Oxide
R9629	VRS-CZ1JF103FY	AB		J	Resistor 10k 1/16W Metal Oxide
R9630	VRS-CZ1JF153FY	AA		J	Resistor 15k 1/16W Metal Oxide
R9631	VRS-CZ1JF103FY	AB		J	Resistor 10k 1/16W Metal Oxide
R9632	VRS-CZ1JF272JY	AA		J	Resistor 2.7k 1/16W Metal Oxide
R9633	VRS-CZ1JF101JY	AA		J	Resistor 100 1/16W Metal Oxide
R9634	VRS-CZ1JF100JY	AA		J	Resistor 10 1/16W Metal Oxide
R9635	VRS-CZ1JF332JY	AA		J	Resistor 3.3k 1/16W Metal Oxide
R9636	VRS-CZ1JF103JY	AA		J	Resistor 10k 1/16W Metal Oxide
R9637	VRS-CZ1JF100JY	AA		J	Resistor 10 1/16W Metal Oxide
R9638	VRS-CZ1JF563FY	AA		J	Resistor 56k 1/16W Metal Oxide
R9639	VRS-CZ1JF272JY	AA		J	Resistor 2.7k 1/16W Metal Oxide
R9640	VRS-CZ1JF103FY	AB		J	Resistor 10k 1/16W Metal Oxide
R9641	VRS-CZ1JF100JY	AA		J	Resistor 10 1/16W Metal Oxide
R9643	VRS-CZ1JF101JY	AA		J	Resistor 100 1/16W Metal Oxide
R9645	VRS-CZ1JF102JY	AA		J	Resistor 1k 1/16W Metal Oxide
R9646	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R9648	VRS-CZ1JF332JY	AA		J	Resistor 3.3k 1/16W Metal Oxide
R9650	VRS-CZ1JF101JY	AA		J	Resistor 100 1/16W Metal Oxide
R9652	VRS-CZ1JF100JY	AA		J	Resistor 10 1/16W Metal Oxide
R9656	VRS-CZ1JF101JY	AA		J	Resistor 100 1/16W Metal Oxide
R9657	VRS-CZ1JF823FY	AA		J	Resistor 82k 1/16W Metal Oxide
R9658	VRS-CZ1JF153FY	AA		J	Resistor 15k 1/16W Metal Oxide
R9665	VRS-CZ1JF101JY	AA		J	Resistor 100 1/16W Metal Oxide
R9677	VRS-CZ1JF101JY	AA		J	Resistor 100 1/16W Metal Oxide
R9687	VRS-CZ1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R9688	VRS-CZ1JF821JY	AA		J	Resistor 820 1/16W Metal Oxide
R9689	VRS-CZ1JF3R9JY	AA		J	Resistor 3.9 1/16W Metal Oxide
R9696	VRS-CZ1JF472JY	AA		J	Resistor 4.7k 1/16W Metal Oxide
SC501	QSOCNA886WJQZ		N	P	Socket
SC504	QSOCNA887WJQZ		N	P	Socket
SC505	QSOCZA211WJQZY		N	P	Socket
SC1501	QSOCZA220WJQZY		N	P	Socket
SC1502	QSOCZA220WJQZY		N	P	Socket
SC1503	QSOCZA220WJQZY		N	P	Socket
SC1505	QSOCZA220WJQZY		N	P	Socket
SC4401	QCNCMA332WJSA		N	P	Socket
SC8454	QSOCZA050WJZZY	AH		J	Socket
T9501	RTRNZA129WJQZY	AH		J	Transformer
TH2002	VHHM1103J15-1Y		N	P	Thermistor
TU1101	RTUDAA053WJQZ		N	P	Tuner
VA507	RH-VXA005WJZZY	AA		J	Varistor AVR-M1005C270MTABB
VA508	RH-VXA005WJZZY	AA		J	Varistor AVR-M1005C270MTABB
VA509	RH-VXA005WJZZY	AA		J	Varistor AVR-M1005C270MTABB
VA510	RH-VXA005WJZZY	AA		J	Varistor AVR-M1005C270MTABB
VA3301	RH-VXA074WJZZY	AB		J	Varistor AVRL101A1R1NTB
VA3302	RH-VXA074WJZZY	AB		J	Varistor AVRL101A1R1NTB
VA506	RH-VXA005WJZZY	AA		J	Varistor AVR-M1005C270MTABB
X1101	RCRSCA205WJQZY	AD		J	Crystal
X2001	RCRSC0032TAZZY	AG		J	Crystal
X2002	RFILZA023WJQZY	AD		J	Crystal
X2701	RCRSCA161WJQZY	AE		J	Crystal
X3302	RCRSCA205WJQZY	AD		J	Crystal
X4401	RCRSCA205WJQZY	AD		J	Crystal
X9501	RCRSCA219WJQZY		N	P	Crystal
N	LHLDZB633WJKZ		N	P	SD Card Cover
N	PSPAZC432WJKZ		N	P	Cooling Sheet
N	UIMC-A009WJZZ		N	P	SD Memory Card

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NO.	PARTS CODE	PRICE RANK	NEW MARK	PART DELIVERY	DESCRIPTION
[3] DUNTKF494FM02 (R/C, LED Unit)					
C101	VCKYCY1HB103KY	AA		J	Capacitor 0.01 50V Ceramic
C103	RC-KZA385WJZZY	AD		J	Capacitor 22 6.3V Ceramic
C104	RC-KZA385WJZZY	AD		J	Capacitor 22 6.3V Ceramic
C105	RC-KZA616WJQZY	AB		J	Capacitor 10 10V Ceramic
D104	RH-EXA633WJQZY	AA		J	Zener Diode RKZ5.6B2KG
IC101	VHiGA1S100W-1Y	AE		J	IC GA1A1S100WP
P103	QPLGNA325WJZZY	AC		J	Plug
R106	VRS-CY1JF223JY	AA		J	Resistor 22k 1/16W Metal Oxide
R113	VRS-CY1JF000JY	AA		J	Resistor 0 1/16W Metal Oxide
R120	VRS-CY1JF101JY	AA		J	Resistor 100 1/16W Metal Oxide
RMC101	RRMCUA053WJZZ	AE		J	Remote Receiver
SLD101	PSLDPA076WJFW	AD		J	Shield
[4] DUNTKF493FM03 (ICON Unit)					
D203	RH-PXA153WJZZY	AF		J	LED SMLE12WBX7W1
D204	RH-PXA153WJZZY	AF		J	LED SMLE12WBX7W1
P202	QPLGNA336WJZZY		N	P	Plug
R203	VRS-TV1JD131JY		N	P	Resistor 130 1/10W Metal Oxide
R204	VRS-TV1JD131JY		N	P	Resistor 130 1/10W Metal Oxide
[5] DUNTKF493FM04 (LOGO Unit)					
D202	RH-PXA153WJZZY	AF		J	LED SMLE12WBX7W1
D203	RH-PXA153WJZZY	AF		J	LED SMLE12WBX7W1
D204	RH-PXA153WJZZY	AF		J	LED SMLE12WBX7W1
P201	QPLGNA337WJZZY	AC		J	Plug
R202	VRS-TV1JD131JY		N	P	Resistor 130 1/10W Metal Oxide
R203	VRS-TV1JD131JY		N	P	Resistor 130 1/10W Metal Oxide
R204	VRS-TV1JD131JY		N	P	Resistor 130 1/10W Metal Oxide

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SHARP SERVICE MANUAL

No. S00N340LE820E

LCD COLOUR TELEVISION

LCD Module Edition

MODELS

LC-40LE820E
LC-46LE820E
LC-52LE820E
LC-40LU820E
LC-46LU820E

In the interests of user-safety (Required by safety regulations in some countries) the set should be restored to its original condition and only parts identical to those specified should be used.

CONTENTS

OUTLINE

CHAPTER 1. Removing LCD Module

- [1] LC-40LE820E/LU820E..... 1-1
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CHAPTER 2. Handling Notes LCD Module

- [1] Fix the LED-PWB at the LED PWB Angle.....2-1
- [2] Peel off the Lamination Film2-4

Parts Guide

Parts marked with "⚠" are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

OUTLINE

- **Information of service parts in the LCD Module**

Unit

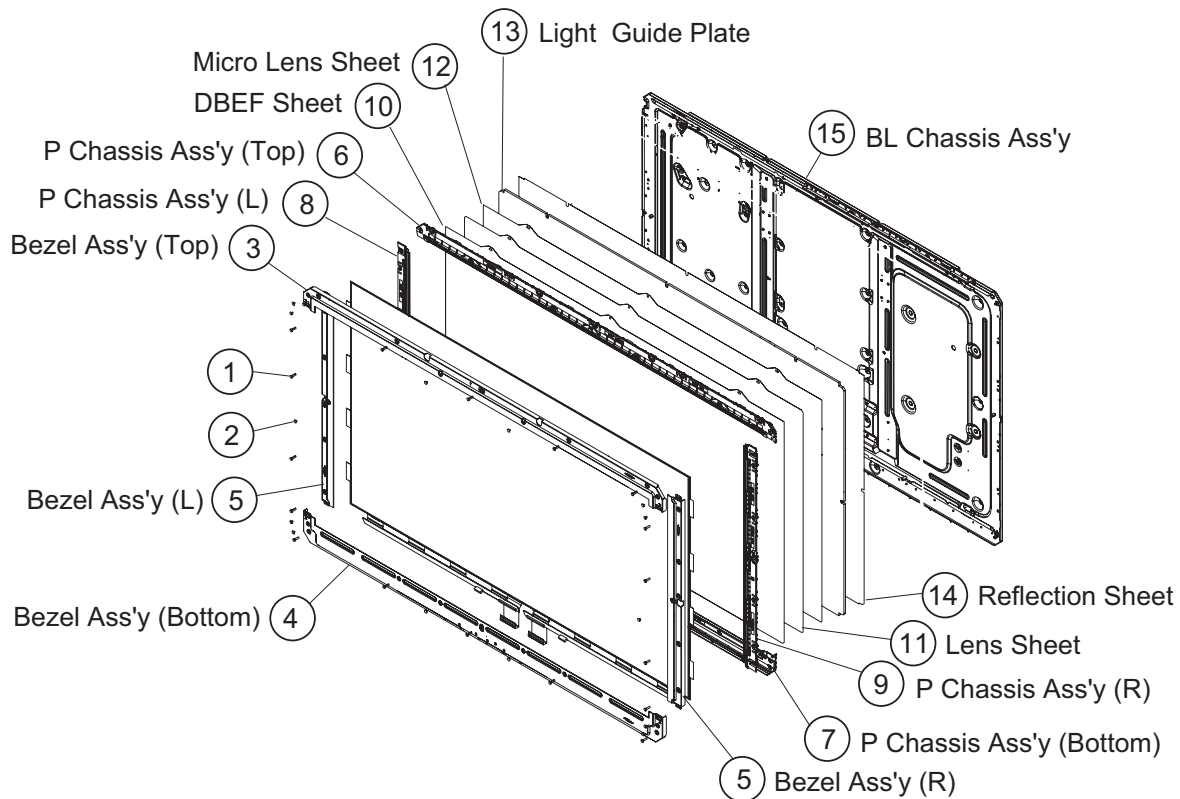
Model name	Unit name	Description
LC-40LE820E LC-40LU820E	R1LK400D3LWF0Y	40" LCD Panel Module Unit
LC-46LE820E LC-46LU820E	R1LK460D3LWA0Y	46" LCD Panel Module Unit
LC-52LE820E	R1LK520D3LWA0Y	52" LCD Panel Module Unit

NOTE: When replacing the LCD control PWB, perform the VCOM adjustment.

CHAPTER 1. Removing LCD Module

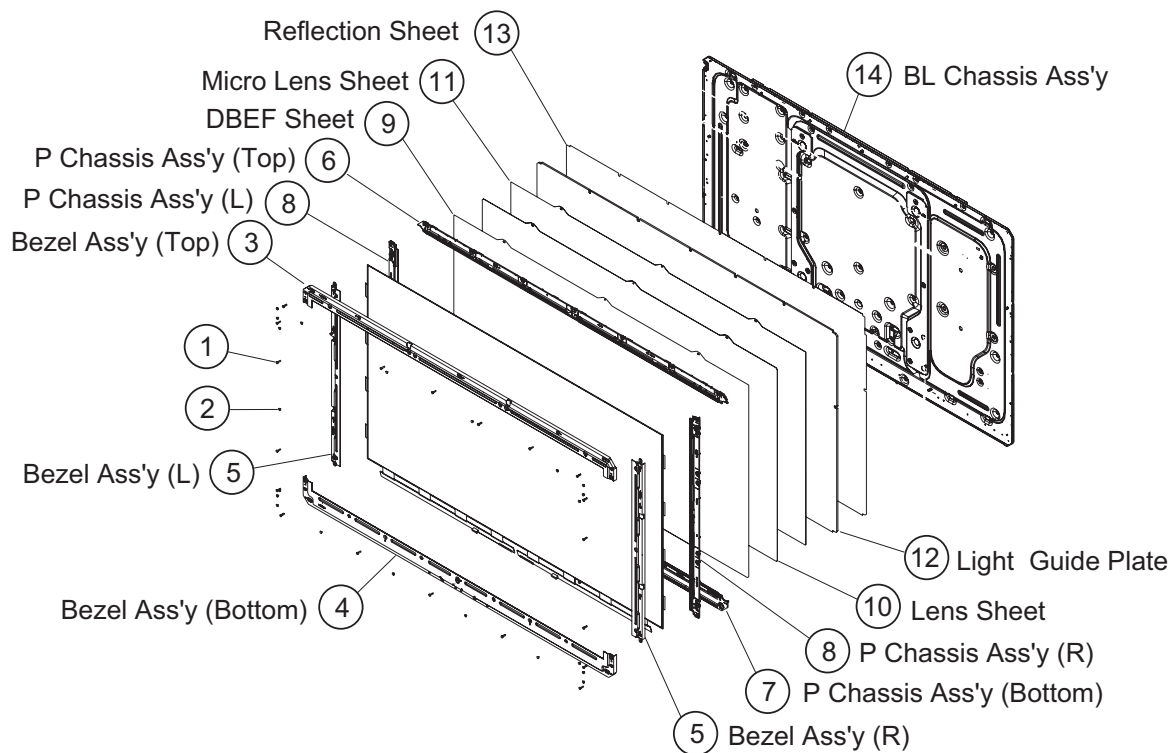
[1] LC-40LE820E/LU820E

1. Remove the 18 lock screws ①, 10 lock screws ② and detach the Bezel Ass'y.
2. Detach the Bezel Ass'y (Top) ③ and Bezel Ass'y (Bottom) ④.
3. Detach the Bezel Ass'y (L/R) ⑤.
4. Detach the P Chassis Ass'y (Top) ⑥ and P Chassis Ass'y (Bottom) ⑦.
5. Detach the P Chassis Ass'y (L) ⑧ and P Chassis Ass'y (R) ⑨.
6. Detach the DBEF Sheet ⑩ and Lens Sheet ⑪.
7. Detach the Micro Lens Sheet ⑫ and Light Guide Plate ⑬.
8. Detach the Reflection Sheet ⑭ and BL Chassis Ass'y ⑮.



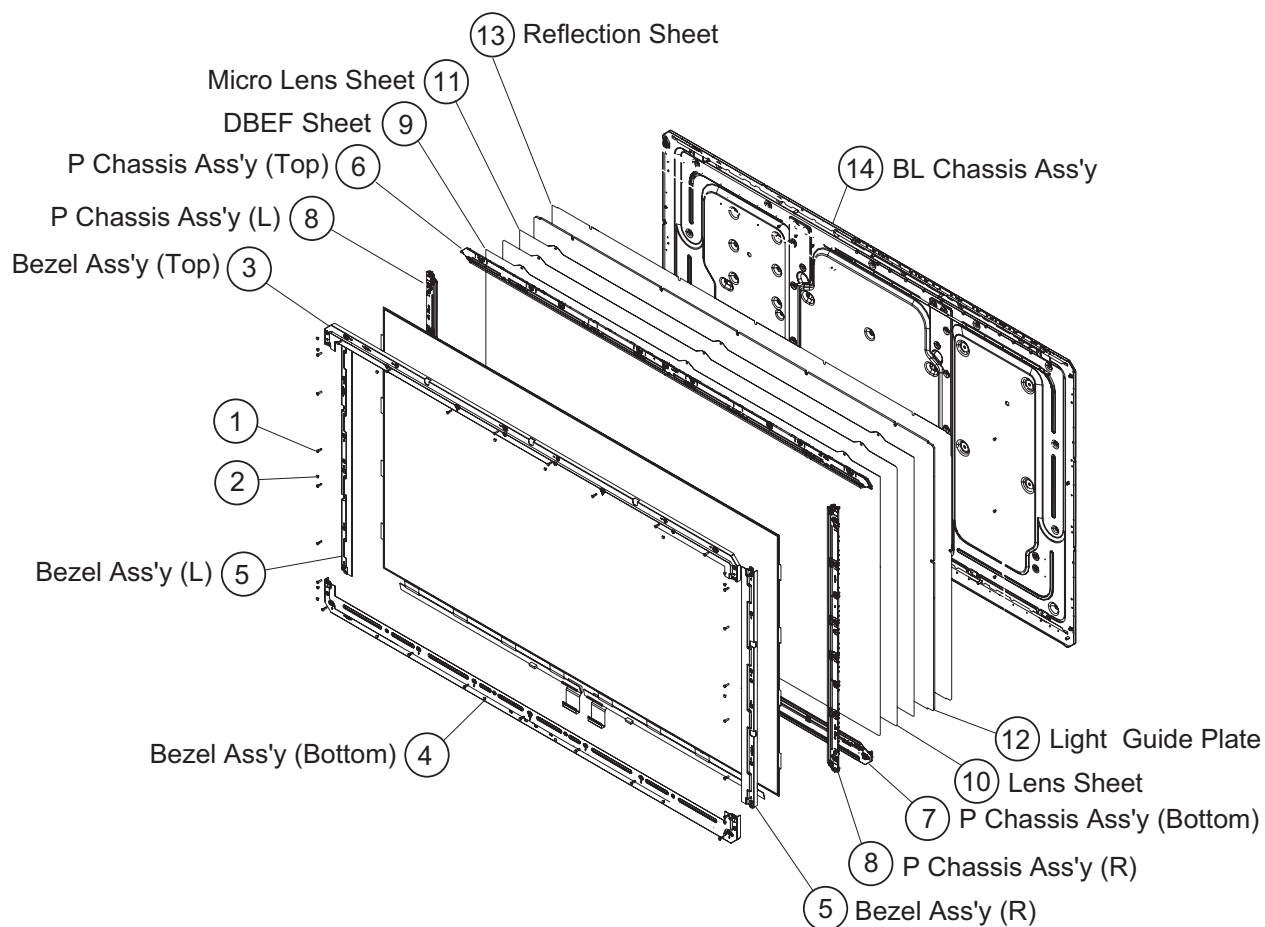
[2] LC-46LE820E/LU820E

1. Remove the 20 lock screws ①, 18 lock screws ② and detach the Bezel Ass'y.
2. Detach the Bezel Ass'y (Top) ③ and Bezel Ass'y (Bottom) ④.
3. Detach the Bezel Ass'y (L/R) ⑤.
4. Detach the P Chassis Ass'y (Top) ⑥ and P Chassis Ass'y (Bottom) ⑦.
5. Detach the P Chassis Ass'y (L/R) ⑧.
6. Detach the DBEF Sheet ⑨ and Lens Sheet ⑩.
7. Detach the Micro Lens Sheet ⑪ and Light Guide Plate ⑫.
8. Detach the Reflection Sheet ⑬ and BL Chassis Ass'y ⑭.



[3] LC-52LE820E

1. Remove the 27 lock screws ①, 14 lock screws ② and detach the Bezel Ass'y.
2. Detach the Bezel Ass'y (Top) ③ and Bezel Ass'y (Bottom) ④.
3. Detach the Bezel Ass'y (L/R) ⑤.
4. Detach the P Chassis Ass'y (Top) ⑥ and P Chassis Ass'y (Bottom) ⑦.
5. Detach the P Chassis Ass'y (L/R) ⑧.
6. Detach the DBEF Sheet ⑨ and Lens Sheet ⑩.
7. Detach the Micro Lens Sheet ⑪ and Light Guide Plate ⑫.
8. Detach the Reflection Sheet ⑬ and BL Chassis Ass'y ⑭.



CHAPTER 2. Handling Notes LCD Module

[1] Fix the LED-PWB at the LED PWB Angle

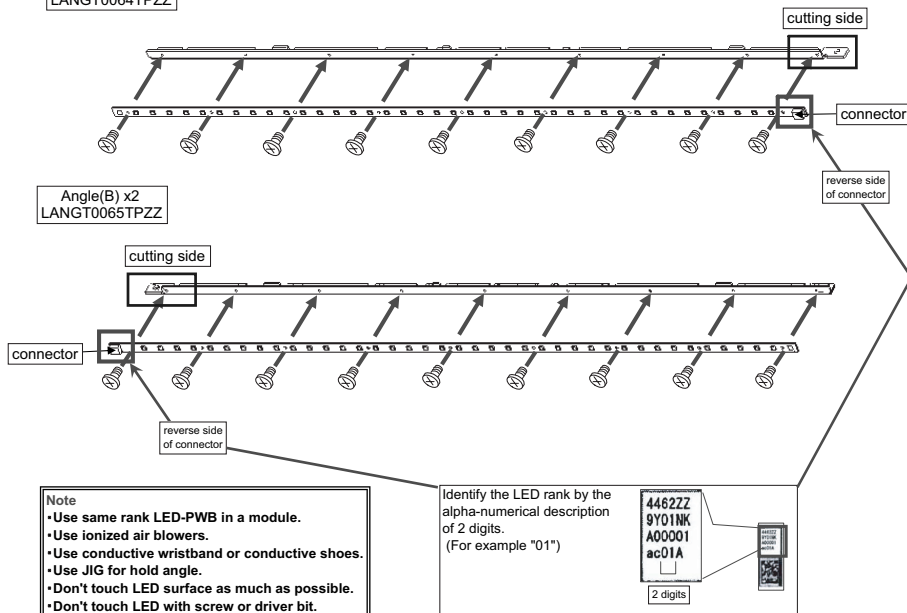
1. LC-40LE820E/LU820E

1. Fix the LED-PWB at the LED-PWB Angle with Screw.

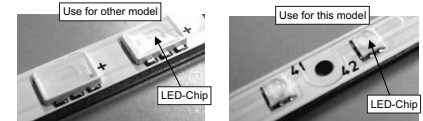
※important matter
•Don't use different Rank of LED-PWB.

Angle(A) x2
LANGT0064TPZZ

Angle(B) x2
LANGT0065TPZZ



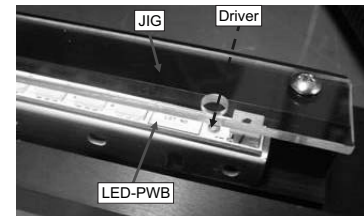
※important matter
•Don't mistake fitting LED-PWB.



Screw x36
LX-SZ2203TPZZ



Use the JIG



Note
•When fixing LED-PWB, Use the JIG.
•Don't make a scratch at LED chips.

1. Fix the LED-PWB Angle unit on BL-chassis with screw.

Fix the LED-PWB Angle unit order
1. Check the parts code.
2. Fit the LED-PWB Angle unit.
3. Check fitting positioning pin.
4. Fix them with screw.

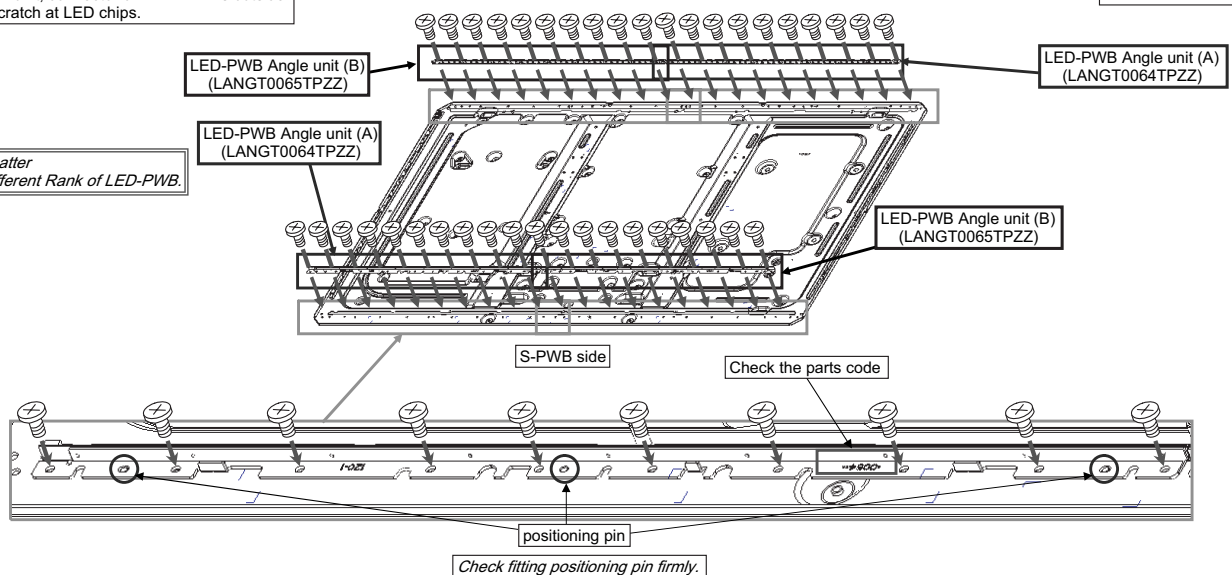
Note
•When fixing LED unit, connector of LED-PWB is outside
•Don't make a scratch at LED chips.

Screw x40
LX-BZ2103TPZZ

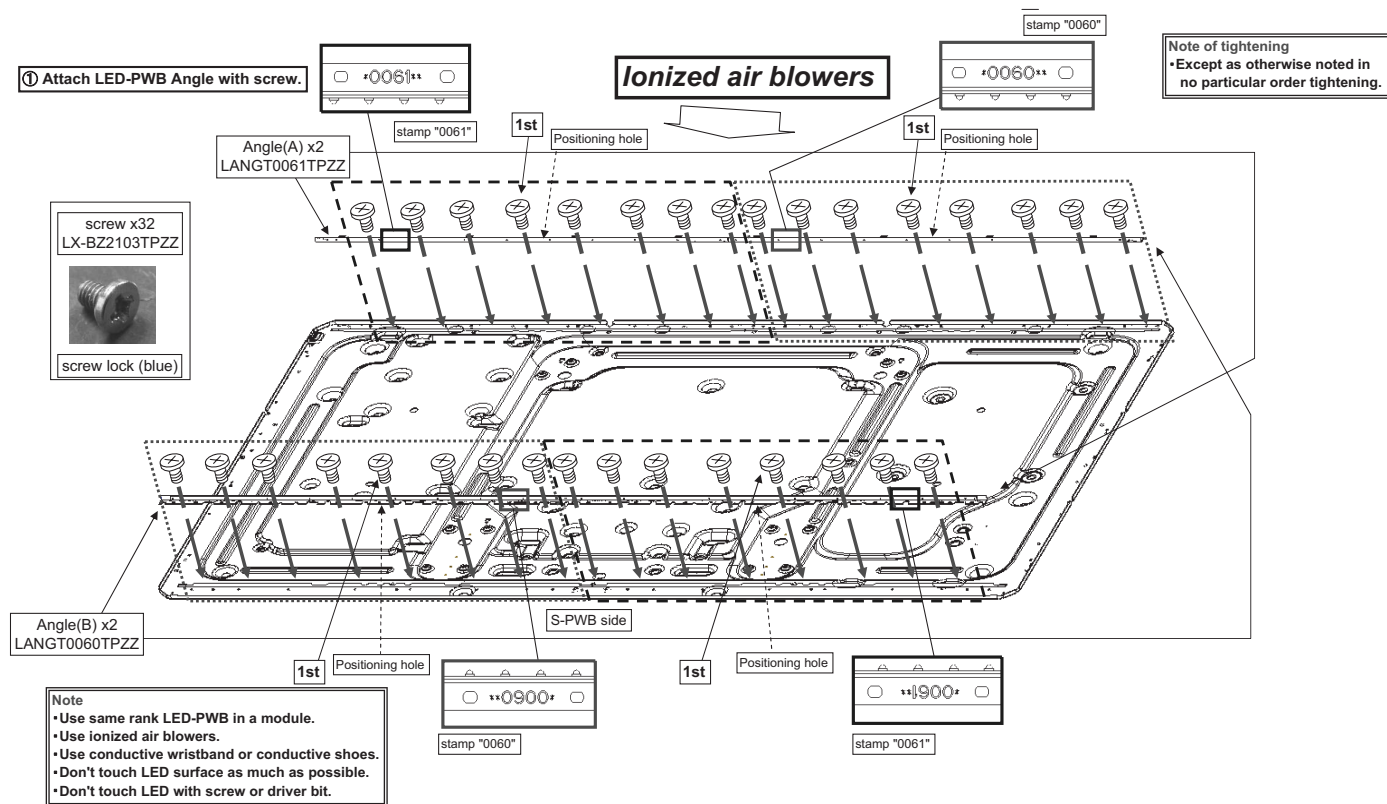
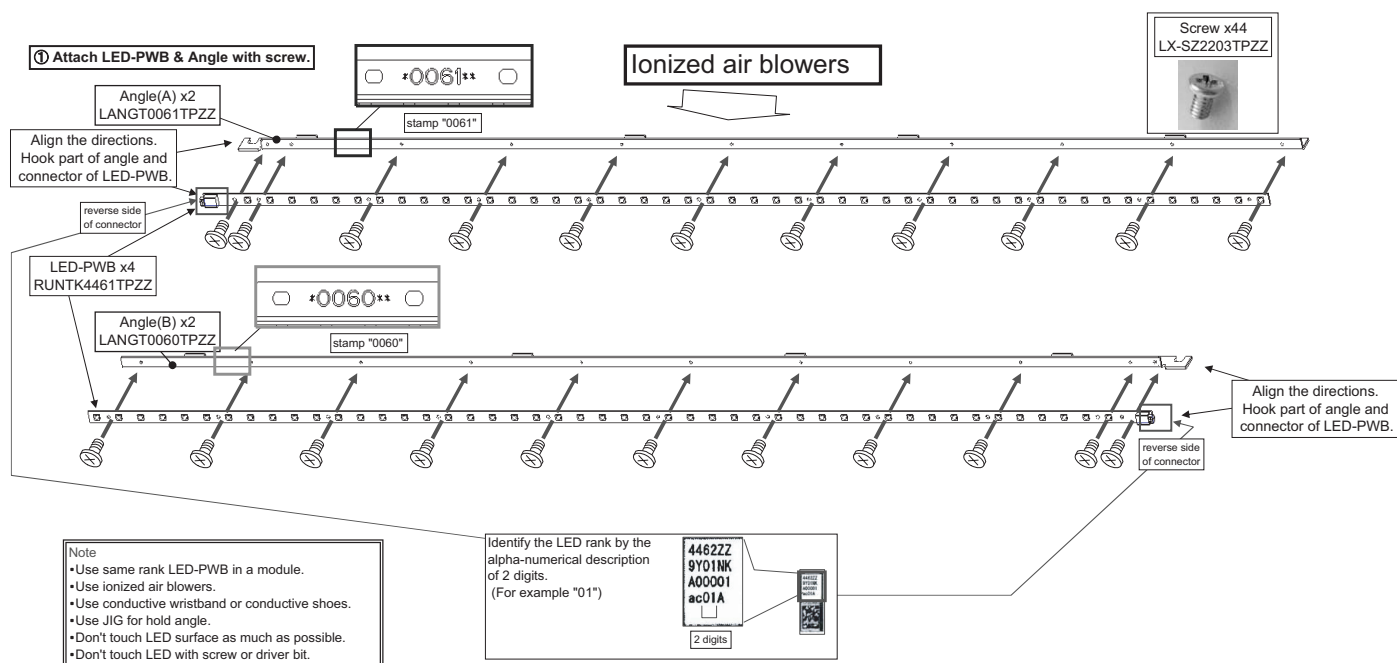


screw lock(Bule)

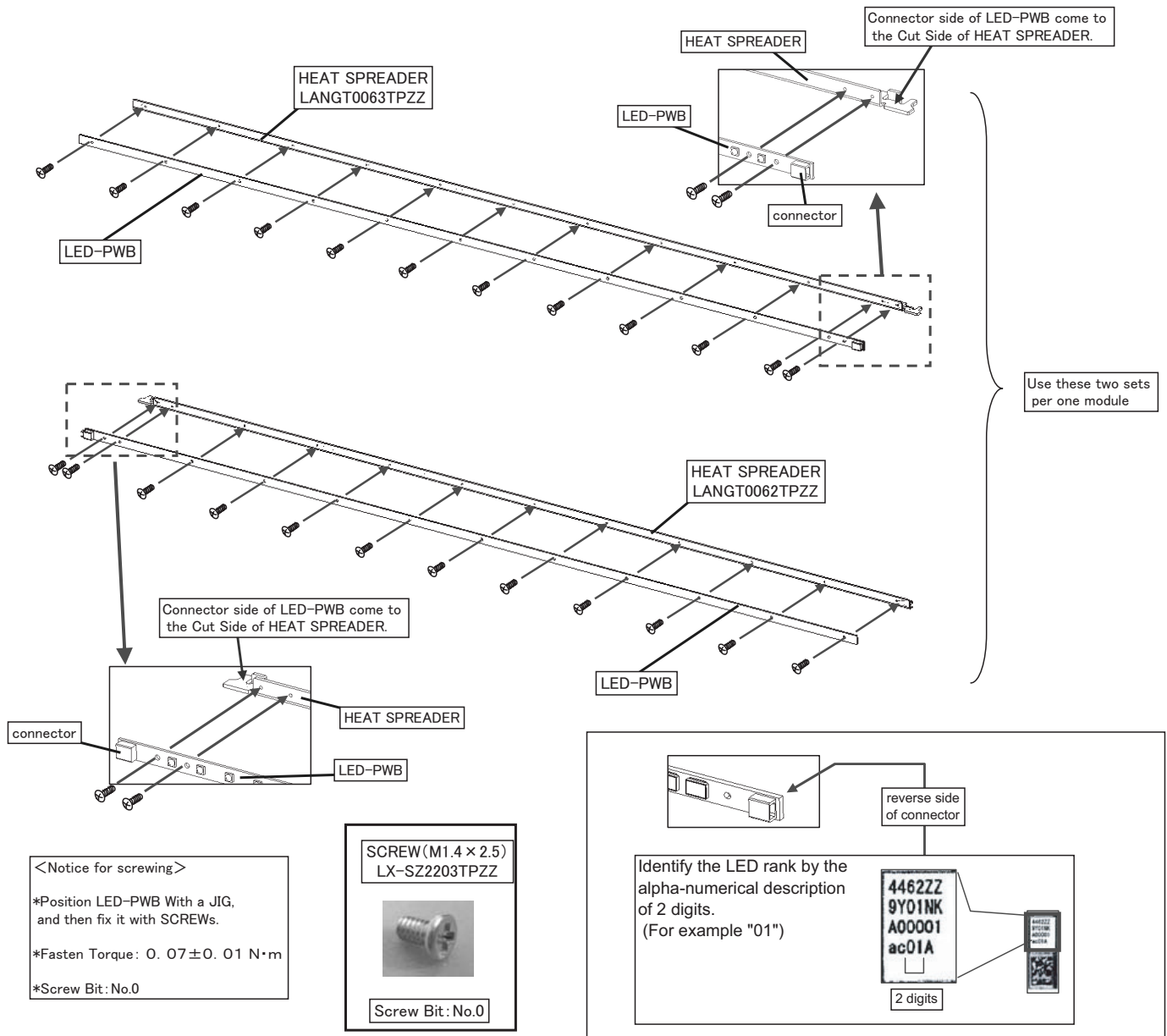
※important matter
•Don't use different Rank of LED-PWB.



2. LC-46LE820E/LU820E



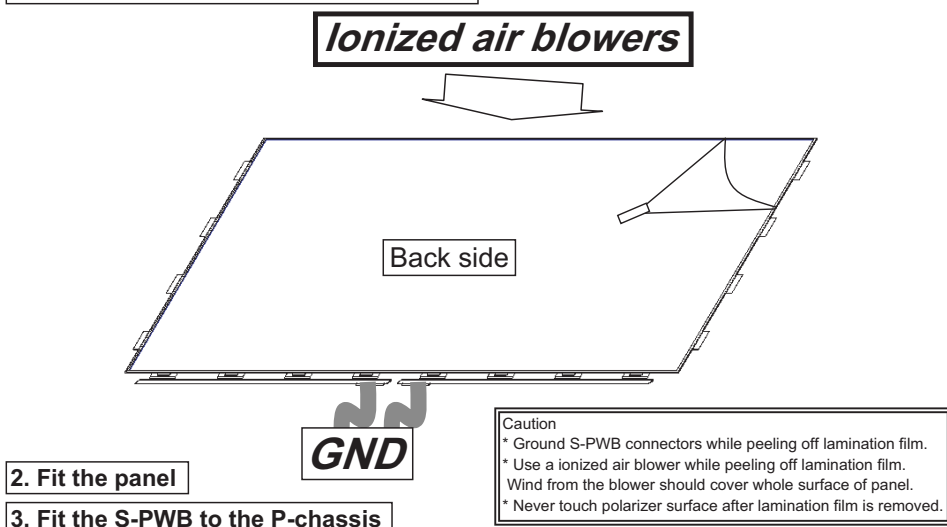
3. LC-52LE820E



[2] Peel off the Lamination Film

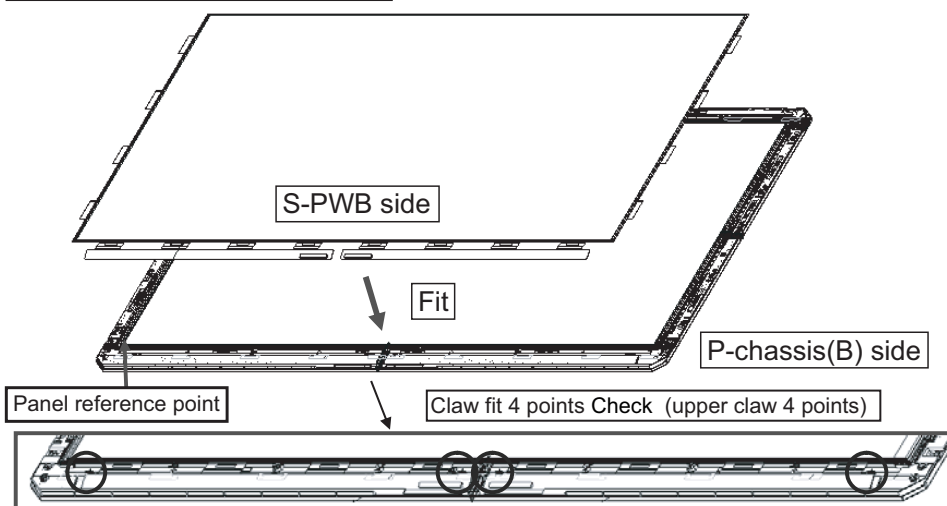
1. LC-40LE820E/LU820E

1. Peel off the back side lamination film

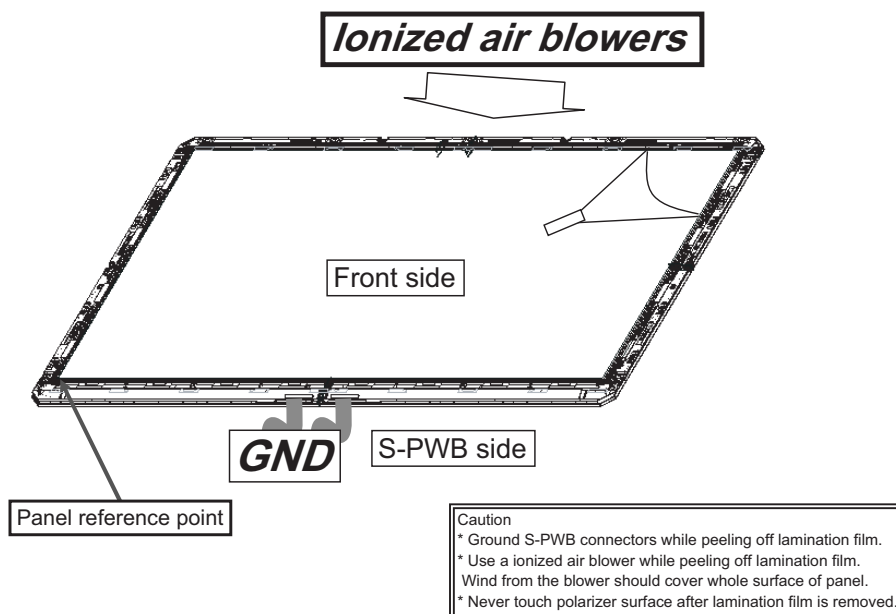


2. Fit the panel

3. Fit the S-PWB to the P-chassis



4. Peel off the front side lamination film



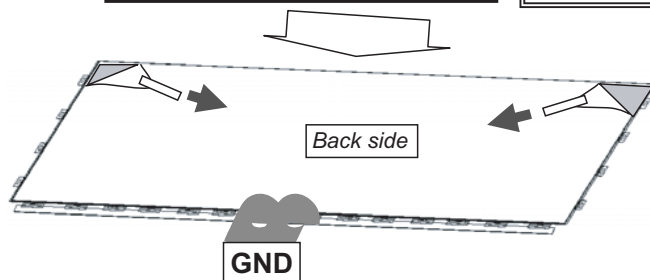
2. LC-46LE820E/LU820E

① Peel off the back side lamination film

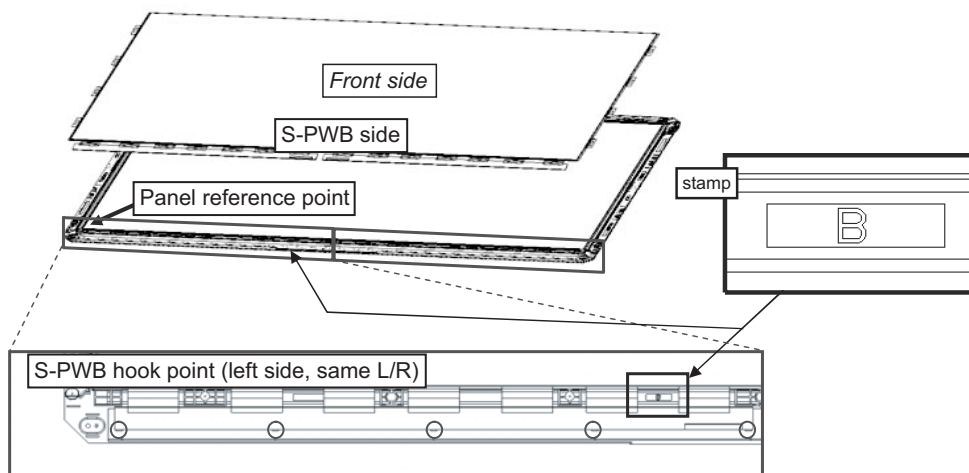
Caution

- * Ground S-PWB connectors while peeling off lamination film.
- * Use a ionized air blower while peeling off lamination film.
- Wind from the blower should cover whole surface of panel.
- * Never touch polarizer surface after lamination film is removed.
- * Don't mistake use the panel for other models.
- (Because there is very similar front polarizers.)

Ionized air blowers



② Fit the panel. Fit the S-PWB to the P-chassis hook.



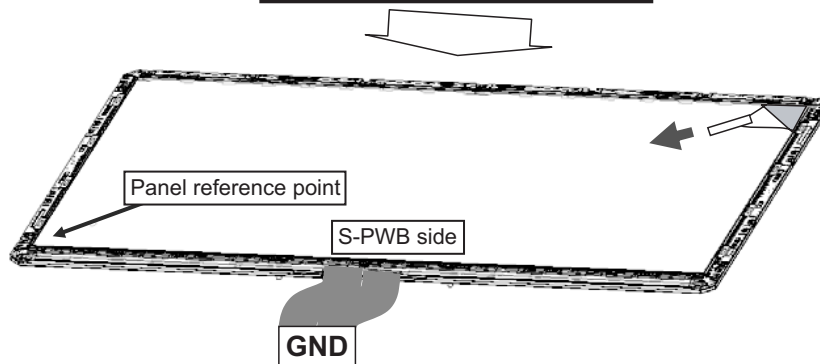
Check the fit to P chassis hook.
(○ part lower hook 5 places, total 10 places L/R)

③ Peel off the front side lamination film

Caution

- * Ground S-PWB connectors while peeling off lamination film.
- * Use a ionized air blower while peeling off lamination film.
- Wind from the blower should cover whole surface of panel.
- * Never touch polarizer surface after lamination film is removed.

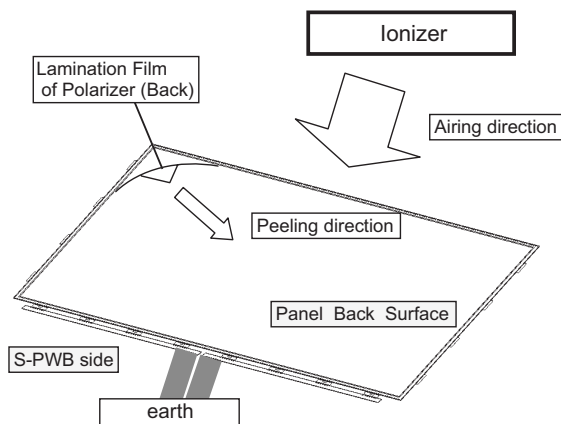
Ionized air blowers



3. LC-52LE820E

PROCEDURE

1. Earth the S-PWB Connector.
2. Peel off the lamination to the arrowed direction at a constant speed while removing the static electricity by the ionizer.



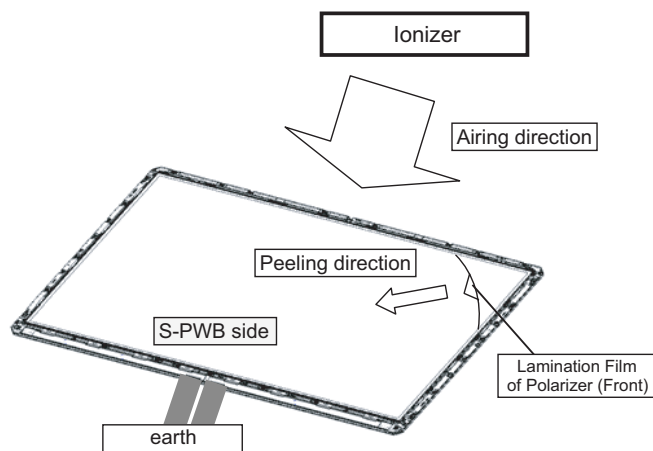
Note:

- *Peel off toward the S-PWB side.
- *The lamination film shall not touch SOF while peeling.
- *Make sure the entire surface is aired.
- *Ensure there is no dust or particle adhered to the Polarizer surface.

① Peel off the front lamination film of Polarizer

Procedure to peel off the lamination on LCD Panel (Front)

- 1: Earth the S-PWB Connector.
- 2: Peel off the lamination to the arrowed direction at a constant speed while removing the static electricity by the ionizer.



Note:

- Peel off toward the S-PWB side.
- The lamination film shall not touch SOF while peeling.
- Make sure the entire surface is aired.
- Panel shall not be over any Panel Carrier Rib when peeling-off the film.
- Ensure there is no dust or particle adhered to the Polarizer surface.

LC-40/46/52LE820E, LC-40/46LU820E

— M E M O —

SHARP PARTS GUIDE

No. S00N340LE820E

LCD COLOUR TELEVISION

LC-40LE820E

LC-46LE820E

LC-52LE820E

LC-40LU820E

MODELS LC-46LU820E

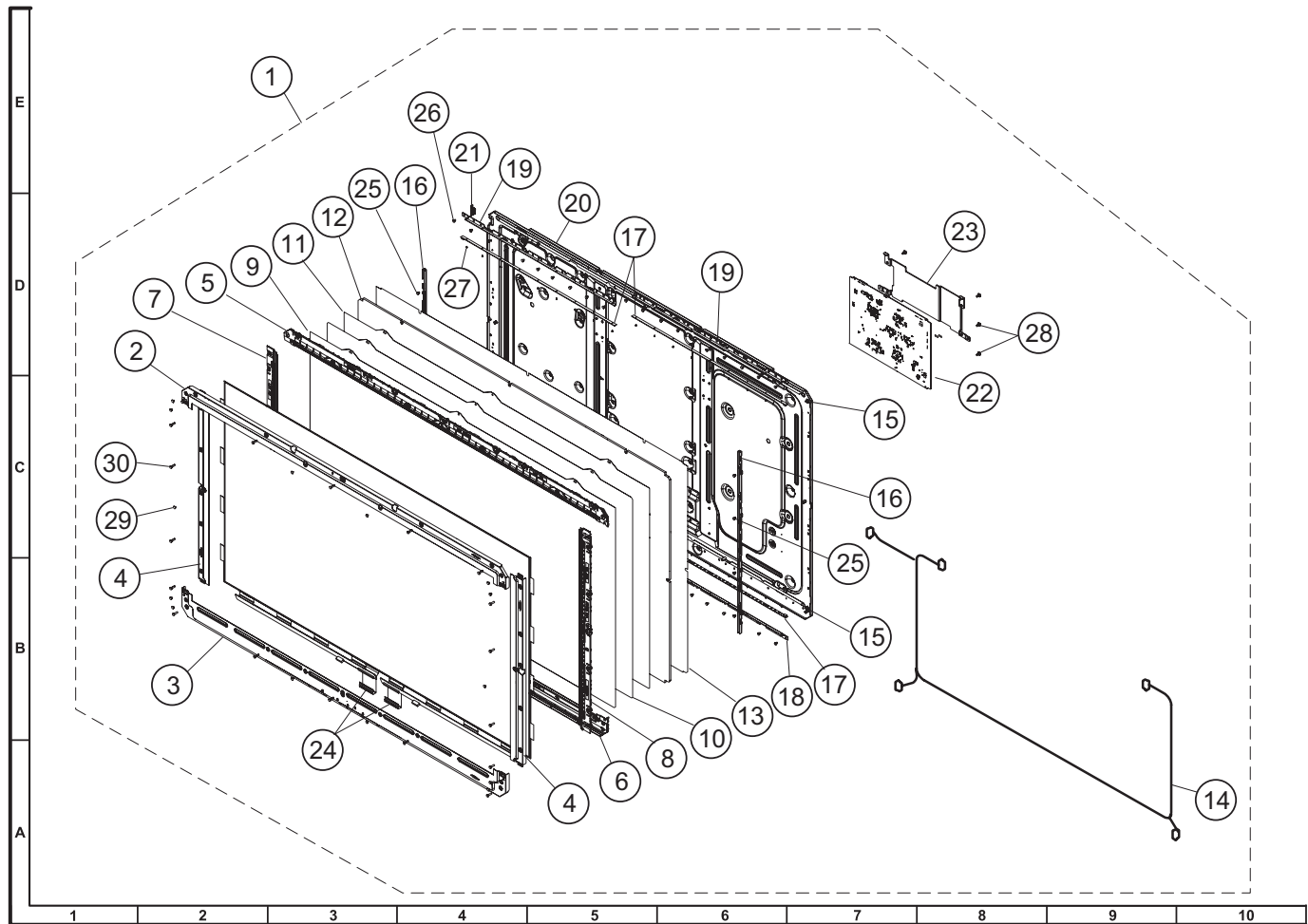
CONTENTS

[1] LCD PANEL MODULE
(LC-40LE820E/LU820E)

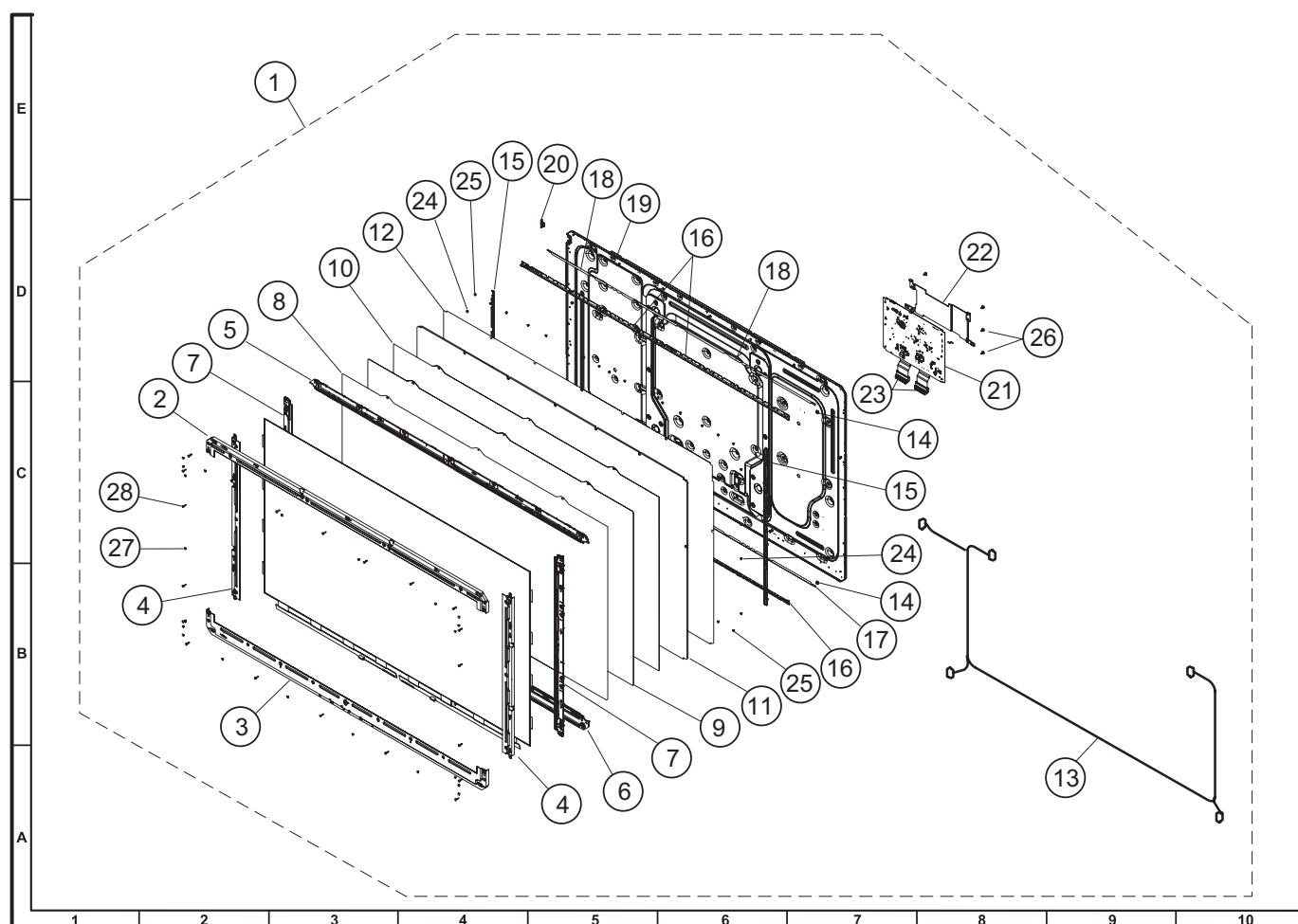
[2] LCD PANEL MODULE
(LC-46LE820E/LU820E)

[3] LCD PANEL MODULE
(LC-52LE820E)

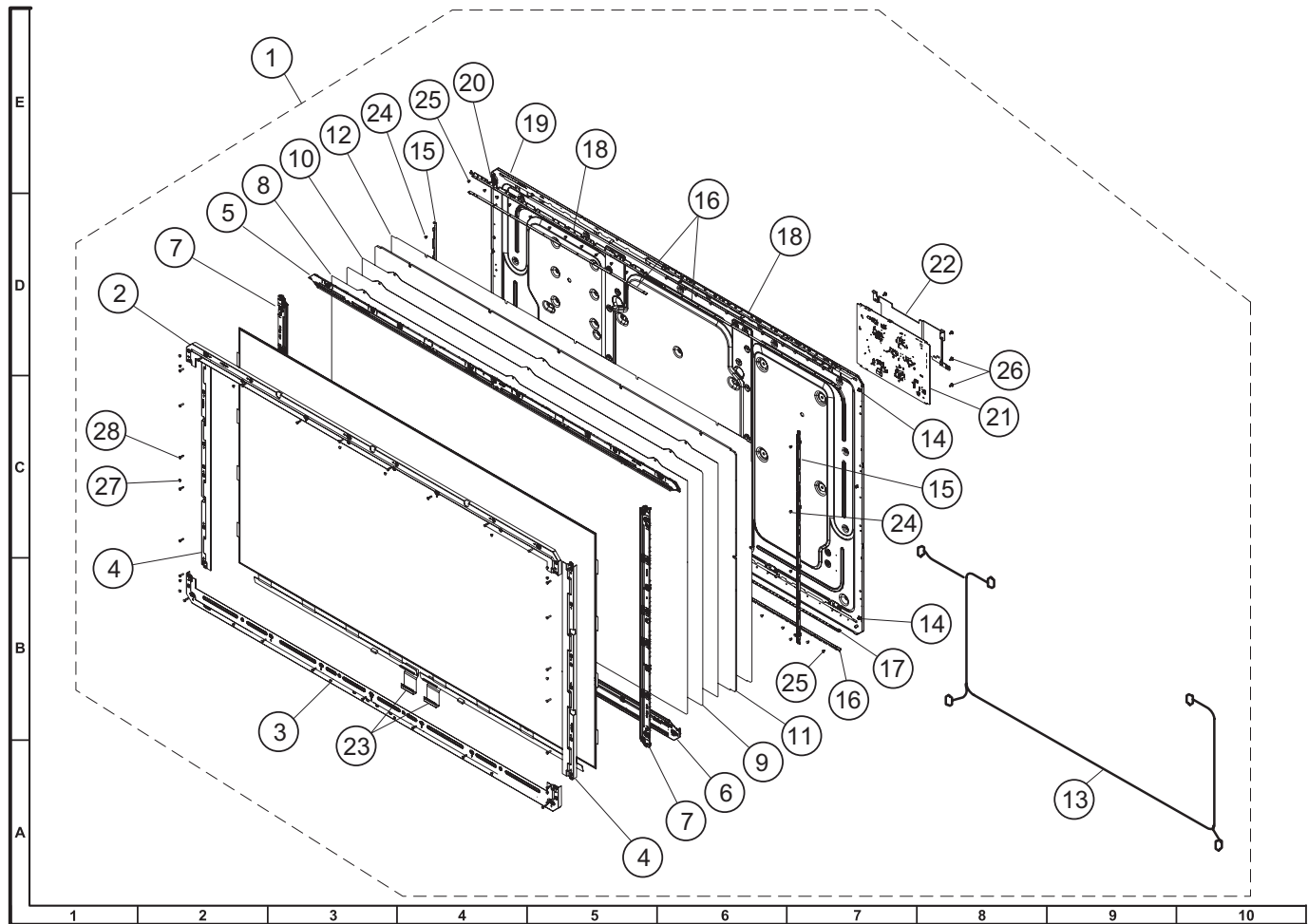
Parts marked with "△" are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

[1] LCD PANEL MODULE (LC-40LE820E/LU820E)

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART DELIVERY	DESCRIPTION
[1] LCD PANEL MODULE (LC-40LE820E/LU820E)					
1	R1LK400D3LWF0Y	DL	N	P	40" LCD Panel Module Unit
2	CANGK4593TP01		N	P	Bezel Ass'y (Top)
3	CANGK4594TP01		N	P	Bezel Ass'y (Bottom)
4	CANGK4595TP01		N	P	Bezel Ass'y (L/R), x2
5	CHLDZ4419TP01		N	P	P Chassis Ass'y (Top)
6	CHLDZ4420TP01		N	P	P Chassis Ass'y (Bottom)
7	CHLDZ4421TP01		N	P	P Chassis Ass'y (L)
8	CHLDZ4422TP01		N	P	P Chassis Ass'y (R)
9	POFMD0381TPZZ		N	P	DBEF Sheet
10	POFMA0924TPZZ		N	P	Lens Sheet
11	PSLDK3253TPZZ		N	P	Micro Lens Sheet
12	PLGPA0526TPZZ		N	P	Light Guide Plate
13	PREFL3003TPZZ		N	P	Reflection Sheet
14	QCNWN2441TPZZ		N	P	LED Cable
15	LHLDWA300WJKZ		N	P	Wire Holder, x3
16	LHLDZ4312TPZZ		N	P	Cable Guide, x2
17	RUNTK4462TPZZ		N	P	LED PWB Unit, x4
18	LANGT0064TPZZ		N	P	LED PWB Angle A, x2
19	LANGT0065TPZZ		N	P	LED PWB Angle B, x2
20	CCHSM0105TP01		N	P	BL Chassis Ass'y
21	PCUSG3392TPZZ		N	P	Guide Cushion
22	RUNTK4512TPZC		N	P	LCD CONTROL Unit
23	PRDARA886WJFW		N	P	LCD CONTROL Unit Cover
24	QPWBM1007TPZZ		N	P	CS-FFC, x2
25	LX-BZ2103TPZZ		N	P	Screw, x8 (Cable Guide)
26	LX-BZ2103TPZZ		N	P	Screw, x40 (LED PWB Angle)
27	LX-SZ2203TPZZ		N	P	Screw, x36 (LED PWB Unit-LED PWB Angle)
28	XBPS730P08KS0		N	P	Screw, x6 (LCD CONTROL Unitx2/LCD CONTROL Unit Coverx4)
29	LX-EZ0002TPZZ		N	P	Screw, x10 (Bezel-P Chassis)
30	LX-BZA369WJF7		N	P	Screw, x18 (Bezel-BL Chassis)

[2] LCD PANEL MODULE (LC-46LE820E/LU820E)

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART DELIVERY	DESCRIPTION
[2] LCD PANEL MODULE (LC-46LE820E/LU820E)					
1	R1LK460D3LWA0Y	DY	N	P	46" LCD Panel Module Unit
2	CANGK4587TP01		N	P	Bezel Ass'y (Top)
3	CANGK4588TP01		N	P	Bezel Ass'y (Bottom)
4	CANGK4589TP01		N	P	Bezel Ass'y (L/R), x2
5	CHLDZ4411TP01		N	P	P Chassis Ass'y (Top)
6	CHLDZ4412TP01		N	P	P Chassis Ass'y (Bottom)
7	CHLDZ4413TP01		N	P	P Chassis Ass'y (L/R), x2
8	POFMD0380TPZZ		N	P	DBEF Sheet
9	POFMA0923TPZZ		N	P	Lens Sheet
10	PSLDK3251TPZZ		N	P	Micro Lens Sheet
11	PLGPA0525TPZZ		N	P	Light Guide Plate
12	PREFL2902TPZZ		N	P	Reflection Sheet
13	QCNWN2440TPZZ		N	P	LED Cable
14	LHLDWA300WJKZ		N	P	Wire Holder, x3
15	LHLDZ4315TPZZ		N	P	Cable Guide, x2
16	RUNTK4461TPZZ		N	P	LED PWB Unit, x4
17	LANGT0060TPZZ		N	P	LED PWB Angle A, x2
18	LANGT0061TPZZ		N	P	LED PWB Angle B, x2
19	CCHSM0103TP01		N	P	BL Chassis Ass'y
20	PCUSG3392TPZZ		N	P	Guide Cushion
21	RUNTK4437TPZE		N	P	LCD CONTROL Unit
22	PRDARA886WJFW		N	P	LCD CONTROL Unit Cover
23	QPWBM1040TPZZ		N	P	CS-FFC, x2
24	LX-BZ2103TPZZ		N	P	Screw, x8 (Cable Guide)
25	LX-BZ2103TPZZ		N	P	Screw, x32 (LED PWB Angle)
26	XBPS730P08KS0		N	P	Screw, x6 (LCD CONTROL Unitx2/LCD CONTROL Unit Coverx4)
27	LX-EZ0002TPZZ		N	P	Screw, x18 (Bezel-P Chassis)
28	LX-BZA369WJF7		N	P	Screw, x20 (Bezel-BL Chassis)
N	LX-SZ2203TPZZ		N	P	Screw, x44 (LED PWB Unit-LED PWB Angle)

[3] LCD PANEL MODULE (LC-52LE820E)

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART DELIVERY	DESCRIPTION
[3] LCD PANEL MODULE (LC-52LE820E)					
1	R1LK520D3LWA0Y	EE	N	P	52" LCD Panel Module Unit
2	CANGK4590TP01		N	P	Bezel Ass'y (Top)
3	CANGK4591TP01		N	P	Bezel Ass'y (Bottom)
4	CANGK4592TP01		N	P	Bezel Ass'y (L/R), x2
5	CHLDZ4415TP01		N	P	P Chassis Ass'y (Top)
6	CHLDZ4416TP01		N	P	P Chassis Ass'y (Bottom)
7	CHLDZ4417TP01		N	P	P Chassis Ass'y (L/R), x2
8	POFMD0379TPZZ		N	P	DBEF Sheet
9	POFMA0922TPZZ		N	P	Lens Sheet
10	PSLDK3249TPZZ		N	P	Micro Lens Sheet
11	PLGPA0524TPZZ		N	P	Light Guide Plate
12	PREFL2901TPZZ		N	P	Reflection Sheet
13	QCWNW2439TPZZ		N	P	LED Cable
14	LHLDWA300WJKZ		N	P	Wire Holder, x3
15	LHLDZ4318TPZZ		N	P	Cable Guide, x2
16	RUNTK4460TPZZ		N	P	LED PWB Unit, x4
17	LANGT0062TPZZ		N	P	LED PWB Angle A, x2
18	LANGT0063TPZZ		N	P	LED PWB Angle B, x2
19	CCHSM0104TP01		N	P	BL Chassis Ass'y
20	PCUSG3392TPZZ		N	P	Guide Cushion
21	RUNTK4512TPZC		N	P	LCD CONTROL Unit
22	PRDARA886WJFW		N	P	LCD CONTROL Unit Cover
23	QPWBM1007TPZZ		N	P	CS-FFC, x2
24	LX-BZ2103TPZZ		N	P	Screw, x8 (Cable Guide)
25	LX-BZ2103TPZZ		N	P	Screw, x44 (LED PWB Angle)
26	XBPS730P08KS0		N	P	Screw, x6 (LCD CONTROL Unitx2/LCD CONTROL Unit Coverx4)
27	LX-EZ0002TPZZ		N	P	Screw, x14 (Bezel-P Chassis)
28	LX-BZA369WJF7		N	P	Screw, x27 (Bezel-BL Chassis)
N	LX-SZ2203TPZZ		N	P	Screw, x48 (LED PWB Unit-LED PWB Angle)

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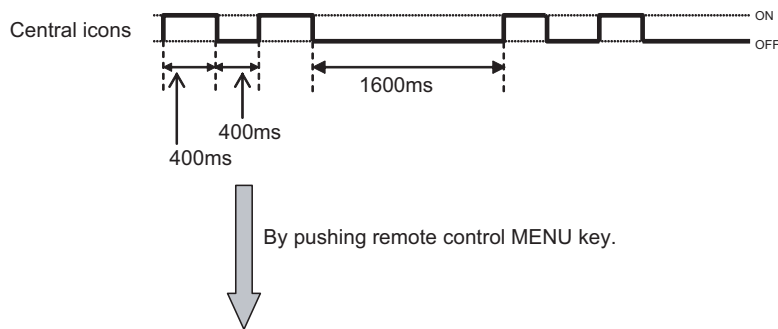
[2] LED flashing specification at the time of the error

Display method

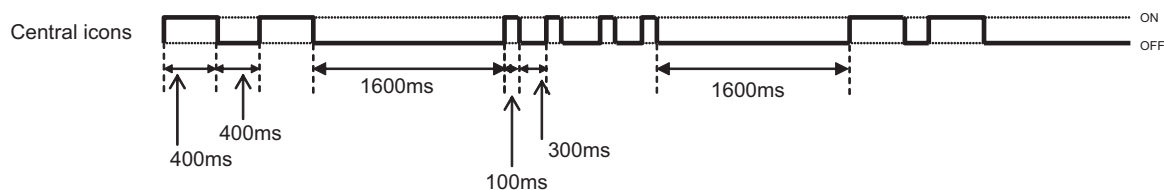
- Refer to Table 1.
- LED that can be used is only one of the central icons.
This expresses the error situation by combining blinking at low speed and blinking at high speed.
- For this model, the blinking pattern displayed first is only a low-speed blinking.
This expresses **a rough content of the error**.
- For this model, details are displayed by high-speed blinking by pushing remote control MENU key.
This expresses **details of the error**.
Details are distinguished by the blinking frequency.
- It doesn't return to the outline display again (blink at low speed) by pushing the MENU key (The toggle is not done).
Please confirm "MONITOR ERR CAUSE" of the adjustment Process mode (1/21), when the error doesn't reproduce by having returned from the error.
- The process of the upgrade is expressed by the brightness of point LED that smoothness changes.
- The upgrade completion is expressed by the LED brightness that changes in a staircase pattern.

LED flashing method

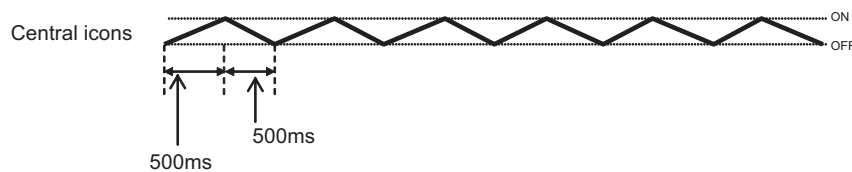
<Examination for a rough content of the error>



<Examination for details of the error>



<Upgrade executing>



<Upgrade completion>

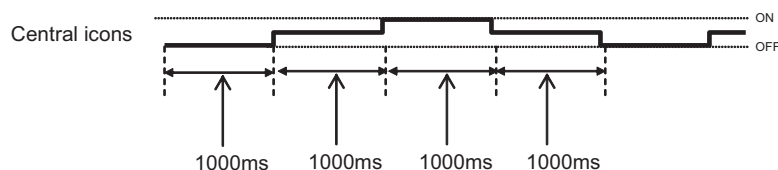


Table 1. Concrete flashing pattern

Item	Expression for a rough content		Expression for Details		Cause
	low-speed blinking	high-speed blinking	low-speed blinking	high-speed blinking	
Lamp system failure	Flashes once	—	Flashes once	Flashes once	Lamp error
Power PWB failure (Power failure, etc.)	Flashes twice	—	Flashes twice	Flashes once	Power Error 1 AC_DET error (*2)
				Flashes twice	Power Error 2 UR+13.5V error (*2)
				Flashes 3 times	Power Error 3 D3.3V error (*2)
				Flashes 5 times	Panel power supply error
Main PWB failure (Communication failure, etc.)	Flashes 3 times	—	Flashes 3 times	Flashes once	Initial communication error
				Flashes twice	Start-up confirmation communication error
				Flashes 3 times	Regular communication error
				Flashes 5 times	Other communication error
Others	Flashes 4 times	—	Flashes 4 times	Flashes once	Temperature error
				Flashes twice	Sync error
				Flashes 3 times	Notification from the main microprocessor (*3)
Upgrade executing	smoothness changes.	—	—	—	Version upgrading
Upgrade completion	a staircase pattern.	—	—	—	Version upgrade succeeded
Upgrade failed	—	Flashing (Continuous)	—	—	Version upgrade failed
ROM data failure	—	Flashing (Continuous)	—	—	Start-up after failing version upgrade (*4)

*2: It depends on the system. The power supply error suitable for the product is defined.

*3: For details, refer to ERROR STANDBY CAUSE on the adjustment process screen.

*4: If the boot section is abnormal, there is no flashing (flashing disabled).

MONITOR ERR STBY table

Outline: Communication/Power failure detected by the monitor microprocessor (IC2002) is stored on EEPROM, states can be confirmed in the adjustment process mode.

Location: Page 1/21 of the adjustment process mode: MONITOR ERR CAUSE "0" if there is no error. It is cleared to 0 on the page (2/21) of the adjustment process mode.

Display	Error description	
02	Start-up communication error 2	Initial communication from the main CPU is not received.
03	Start-up communication error 3	Only the initial communication is received.
04	Start-up communication error 4	Until panel information request reception
05	Start-up communication error 5	Until initialization completion reception
06	Start-up communication error 6	Until version notification transmission
07	Start-up communication error 7	Until start-up information notification transmission
08	Start-up communication error 8	Until start-up information response reception
09	Start-up communication error 9	Until time-out setting reception
0A	Communication error A	REQ time-out
0B	Communication error B	Restart time-out during the beginning of time acquisition start-up
0C	Communication error C	Ending sequence time-out
0D	Communication error D	Preset start-up time-out during completion
0E	Communication error E	Download start-up time-out
0F	Communication error F	Time acquisition time-out
11	Communication error H	Regular communication time-out
16	Panel-related error	Lamp failure
1A	Other error 2	Monitor temperature failure
1D	Power supply error 1	PS_ON (AC_DET) failure
1E	Power supply error 2	D_POW (DET_13V) failure
1F	Power supply error 3	D_POW (DET_D3V3) failure
21	Power supply error 5	Panel power failure
23	Other error 3	Error standby request from the main CPU

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LED flashing timing chart at the time of the error



1) Low-speed blinking

Error type	Expression of Central Icon LED	Note: Pins are monitor microprocessor pins (IC2002).
Lamp failure low-speed blinking Flashes once	H: ON L: OFF	Refer to "Lamp failure details". LOW/High blinking by pressing the [MENU] key on the remote control.
Power failure low-speed blinking Flashes twice	H: ON L: OFF	Refer to "Power failure details". LOW/High blinking by pressing the [MENU] key on the remote control.
Communication failure with main CPU low-speed blinking Flashes 3 times	H: ON L: OFF	Refer to "Communication failure details". LOW/High blinking by pressing the [MENU] key on the remote control. Communication line failure or main CPU communication failure.
Others low-speed blinking Flashes 4 times	H: ON L: OFF	Refer to "Other failure details". LOW/High blinking by pressing the [MENU] key on the remote control.

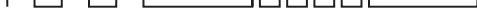
2) Lamp failure details (Low-speed blinking: Flashes once + High-speed blinking)

Error type	Expression of Central Icon LED	Note: Pins are monitor microprocessor pins unless otherwise specified (IC2002).
Lamp failure Flashes once (High speed)	H: ON L: OFF	ERR_PNL (40pin): Abnormal H. Confirmed after 8 consecutive detections at 64ms intervals (detected only when the backlight is on). NOTE: After 5 detection counts, the lamp cannot be activated except in the monitoring process. To confirm the problem, "Lamp Error detection off-mode" is prepared. This mode compulsorily starts the set disregarding the count. Please refer to [ADJUSTMENT PROCEDURE - 7. Lamp Error detection]

3) Power failure details (Low-speed blinking: Flashes twice + High-speed blinking)

Error type	Expression of Central Icon LED	Note: Pins are monitor microprocessor pins unless otherwise specified (IC2002).
PS_ON AC_DET failure Flashes once (High speed)	H: ON L: OFF	AC_DET (72pin): Abnormal (L). If error is detected during start-up or operation, the power is turned on again by interrupt handling (instantaneous blackout processing).
SM_POW Main 13V failure Flashes twice (High speed)	H: ON L: OFF	DET_13V (38pin): Abnormal (L). Main 13V is not applied. If error is detected during start-up or operation, the power is turned on again by polling.
D_POW Digital 3.3V failure Flashes 3 times (High speed)	H: ON L: OFF	DET_D3V3 (36pin): abnormal (L). Digital 3.3V is not applied. If error is detected during start-up or operation, the power is turned on again by polling.
PANEL_POW Panel 12V failure Flashes 5 times (High speed)	H: ON L: OFF	DET_PNL12V (35pin): abnormal (L). DET_PNL12V is not applied. Detection starts after receiving command from Panel Power ON. The power is turned off by polling.

4) Communication failure details (Low-speed blinking: Flashes 3 times + High-speed blinking)

Error type	Expression of Central Icon LED	Note: Basically, debug print logs are analyzed or communication logs are analyzed by a bus monitor.
Initial communication reception failure Flashes once (High speed)	H: ON  L: OFF	Initial communication from the main CPU is not received. (Request for the monitor model No. is not received.) → Communication line failure or main CPU start-up failure
Start-up confirmation reception failure Flashes twice (High speed)	H: ON  L: OFF	Start-up reason confirmation from the main CPU cannot be received. (Startup communication until start-up reason notification command is not received.) → Main CPU start-up failure or monitor microprocessor reception failure
Regular communication failure Flashes 3 times (High speed)	H: ON  L: OFF	Regular communication that is performed at 1 second intervals in the normal operation is interrupted. → Main CPU operation failure or monitor microprocessor reception failure
Other communication failure Flashes 5 times (High speed)	H: ON  L: OFF	When a request (PM_REQ=H) is sent from the main microprocessor, the request command is not output from the main CPU, etc. → Main CPU operation failure or monitor microprocessor reception failure

5) Other failure details (Low-speed blinking: Flashes 4 times + High-speed blinking)

Error type	Expression of Central Icon LED	Note: Pins are monitor microprocessor pins unless otherwise specified (IC2002).
Monitor temperature failure Flashes once (High speed)	H: ON  L: OFF	If the panel temperature is 60°C or more for 15s or more in a row, CAUTION appears on the OSD (flashes in red in the lower right screen). If the panel temperature is 60°C or more for 25s or more in a row, error standby is activated. (MONITOR MAX TEMP on page 13/21 of the adjustment process: Change AD value for temperature failure): Thermistor
Main failure Flashes 3 times (High speed)	H: ON  L: OFF	Main microprocessor detection error (CPU temperature error, etc.) Details are displayed on page 1/21 of the adjustment process for the main microprocessor.